



AIR TRANSPORT

ANNUAL REPORT 2020

Transport Global Practice







**END EXTREME
POVERTY WITHIN A
GENERATION AND
BOOST SHARED
PROSPERITY**

THE WORLD BANK MISSION

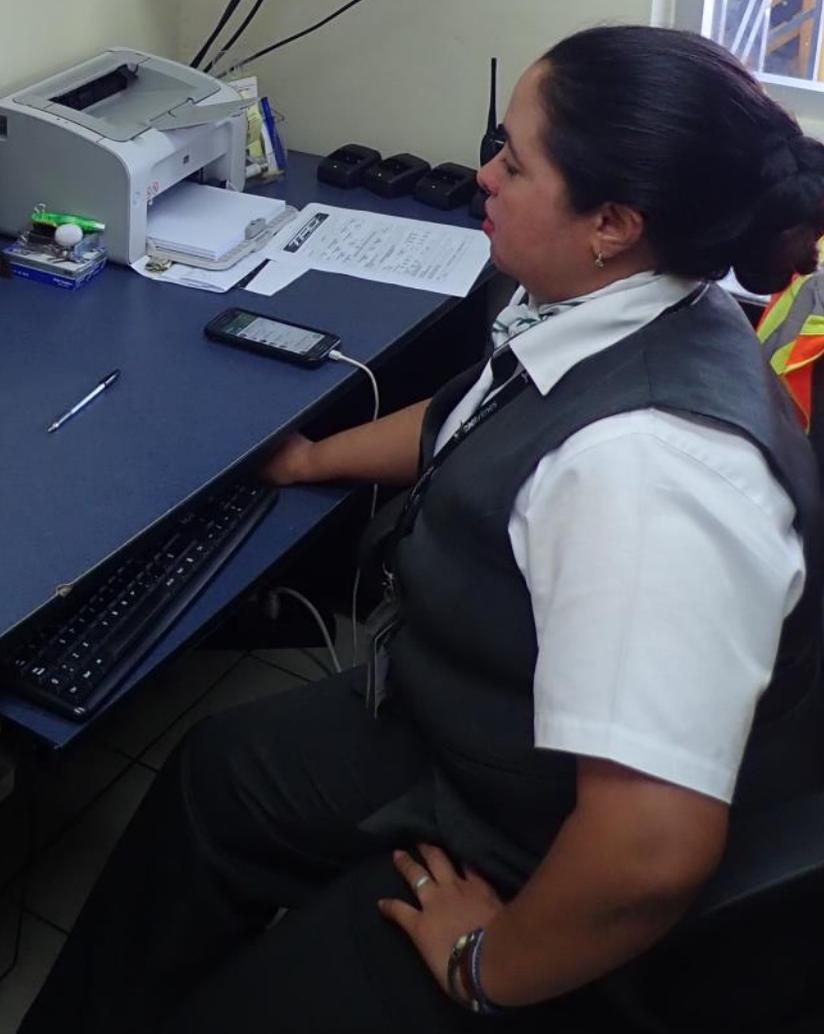
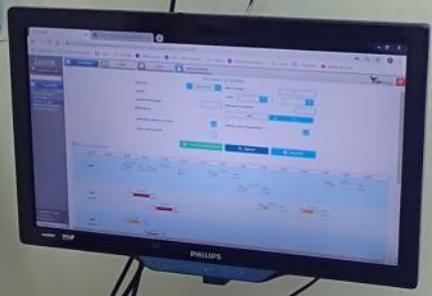
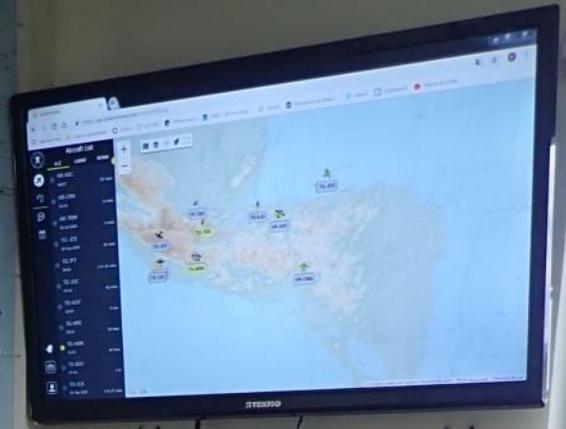
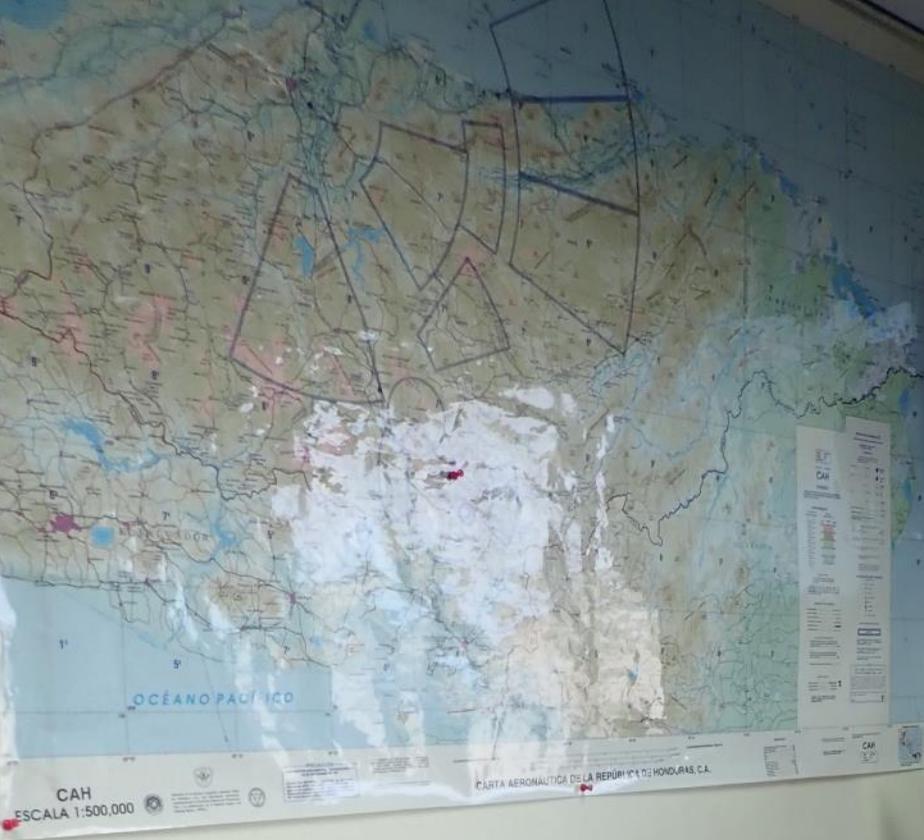


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FINANCING SAFE, AFFORDABLE, AND SUSTAINABLE AIR TRANSPORT WITH PRIVATE SECTOR PARTICIPATION

During FY20, the global air transport sector experienced its greatest decline in commercial air travel and aviation since World War II. Previous adverse impacts on aviation, such as the 9-11 terrorist attacks and the 2007–08 global financial crisis, were considered severe. But none compare with what is estimated to be a 66% decline in global revenue passenger kilometers in 2020. China's domestic aviation market declined first, at the start of the year, but recovered slightly by March. As the COVID-19 pandemic progressed, its impact on air transportation resulted in a global reduction of 94% with most airlines grounded by April.

The COVID-19 imposed travel restrictions resulted in the collapse of air service connections between cities worldwide. Some markets saw signs of early recovery, such as domestic traffic in China and in the United States. However, the majority of scheduled intercontinental connections between cities disappeared. Nevertheless, the market for air freight experienced a comparatively modest decline, given that many global supply chains relied on continuous delivery of parts, which fostered demand. Furthermore, given that well over half of air cargo is carried in the holds of passenger aircraft, the collapse of passenger flights caused a challenge for air freight.

The overall global impact of the COVID-19 pandemic was severe. In terms of air passenger traffic, a global reduction of air passengers (both international and domestic) of about 60% in 2020, compared to 2019, is expected by International Civil Aviation Organization. In terms of financial losses of airlines, International Air Transport Association estimated that airlines worldwide would experience a net loss of USD118.5 billion in 2020. The airline industry, fighting for its survival, was facing a half trillion-dollar revenue drop (from USD838 billion in 2019 to USD328 billion), and had to cut costs by USD365 billion in 2020. Further, Airport Council International estimated that the loss of approximately 60% of passenger traffic resulted in a 61% decline of over USD104.5 billion airport revenues.

With the grounding of the passenger fleet, air cargo, in turn, faced a severe shortage of capacity in 2020. Air freighters were utilized at maximum capacity, finding an extra 20% of capacity improvement by increasing the average number of hours flown and by adding new freighters to the fleet. Typically, about half of cargo volumes are transported in the holds of passenger aircraft. With most belly-hold capacity grounded, in particular the wide-body, long-haul passenger aircraft that usually provide the most cargo capacity, air cargo capacity globally was still 25% lower by September 2020 than in the previous year.

The impact on employment was also significant. It is estimated that more than half of the 87.7 million jobs aviation was supporting before the crisis, which are in sectors across economies that rely on air transport services, may have disappeared in 2020. According to the World Trade Organization (WTO), global merchandise trade was also severely affected, with overall volumes falling by 9.2% in 2020 compared to 2019. Arguably, the industry most affected by the decline in air services was tourism. The international tourism industry suffered a revenue decline between USD 910 billion to 1.17 trillion in 2020, compared to the USD 1.5 trillion generated in 2019, with all worldwide destinations having travel restrictions. The global economy suffered a projected -4.4% to -5.2% contraction in world GDP in 2020, far worse than during the 2008–09 financial crisis. A large part of the USD 1.2 to 3.3 trillion global GDP loss in 2020 was in fact due to the decline in international tourism.

COVID resulted in air-line losses of \$118.5 billion [...] tourism had a revenue decline up to \$1.17 trillion [...] over 40 million aviation related jobs lost

Given the devastating impact of the COVID-19 pandemic, countries around the world over proposed or confirmed monetarily quantified relief measures for airlines provided directly by governments or government-backed entities. By mid-2020, these measures amounted to US\$120 billion or about 40% of the total projected revenue loss for airlines in 2020. This amount continued to increase to exceed USD 200 billion in 2021. Nevertheless, the amount of rescue and recovery spending in the economies of G20 countries was well over USD 7 trillion in 2020. Government led

interventions in the aviation sector were in the form of five modalities, (i) government-backed commercial loans, (ii) government guarantees, (iii) nationalization or recapitalization, (iv) deferral and/or waiver of taxes, charges and fees, and (v) route subsidies.

While governments in the largest aviation markets in the US, Europe, and Asia have declared their willingness to support their national carriers with various measures, the situation in developing or emerging countries is far more dire. For example, the lion share of government support in 2020, about 53%, went to US carriers, followed by European and some Asian airlines. African carrier received about 2% of worldwide support, and a similar picture emerged in Latin America. There is still great uncertainty concerning the future of airlines worldwide, but it can be assumed that the flagship carriers and large operators in developed countries will recover a large part of their activity. However, smaller operators and less-profitable routes may be most at risk, followed by many airlines in developing countries, given that these countries cannot afford to provide such support, especially in Latin America and Africa. The resulting loss of air transport connectivity will negatively impact their economies, especially those depending on tourism and trade in goods and services.

The 16th edition of the World Bank Group (WBG) Air Transport Annual Report summarizes the current portfolio of activities being provided to support emerging and developing countries for the development of air transportation, highlighting some of the initiatives in greater detail. With no new major air transport infrastructure projects have been initiated, the overall sector portfolio currently stands at USD 851 million. Nevertheless, as many WBG client countries are facing unprecedented challenges in the new economic environment, current and planned projects will continue to be a focus. In addition, the WBG is responding with non-lending technical assistance, including advisory services and efforts to facilitate the mobilization of private capital for development of air transport.

We look forward to continuing to support our clients addressing the new challenges and opportunities of the sector in 2021 with the objective of helping to achieve safe, affordable, and sustainable air transportation for all.



Dr. Charles E. Schlumberger
Lead Air Transport Specialist

ABBREVIATIONS

ACI	Airports Council International
ADS-B/C	Automatic Dependent Surveillance – Broadcast/Contract
AGL	Aeronautical Ground Lights
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service
ATM	Air Traffic Management
BOT	Build-Operate-Transfer
BOO	Build-Own-Operate
BOOT	Build-Own-Operate-Transfer
BTO	Build-Transfer-Operate
CAA	Civil Aviation Authority
CES	Charles E. Schlumberger, Lead Air Transport Specialist (WBG)
CAGR	Compound Annual Growth Rate
DME	Distance Measuring Equipment
GNSS	Global Navigation Satellite System
EASA	European Aviation Safety Agency
EC	European Commission
ESW	Economic Sector Work
FAA	Federal Aviation Administration (United States)
FTK	Freight Tone Kilometers
FY 2020	Fiscal Year 2020 (01 July 2019 to 30 June 2020)
GDP	Gross Domestic Product
IATA	International Air Transport Association
IASA	International Aviation Safety Assessment (FAA)
IBRD	International Bank for Reconstruction and Development (WBG)
ICAO	International Civil Aviation Organization (UN Agency)
ICSID	International Centre for Settlement of Investment Disputes
IDA	International Development Association (WBG)
IFC	International Finance Corporation (WBG)
ILS	Instrument Landing System
IOSA	IATA Operational Safety Audit
LCC	Low-Cost Carrier
MIGA	Multilateral Investment Guarantee Agency (WBG)
PASO	Pacific Aviation Safety Office
PAPI	Precision Approach Path Indicator
PDO	Project Development Objectives
PJIA	Princess Juliana International Airport
PJIAE	Princess Juliana International Airport Operating Company N.V.
PPPA	Public Private Partnership Agreement
PPP	Public-Private Partnership
RESA	Runway End Safety Area
RPK	Revenue Passenger Kilometer
SARP	Standards and Recommended Practices
SOE	State Owned Enterprises
TA	Technical Assistance
UN	United Nations
USD	United States Dollar
DOT	Department of Transportation (US)
USOAP	Universal Safety and Security Oversight Audits Program (ICAO)
VOR	VHF Omni-Directional Radio Range
VSAT	Very Small Aperture Terminal
WB(G)	World Bank (Group)

This report benefited from the contributions of a number of staff members from across the World Bank Group.

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The Mission

The World Bank Group (WBG) is a vital source of financial and technical assistance to developing countries around the world through the provision of low-interest loans, grants, credits, guarantees and advisory services. The World Bank Group aims to achieve two major goals by 2030:

- ◆ End extreme poverty by decreasing the percentage of people living on less than USD1.25 a day to no more than 3%
- ◆ Promote shared prosperity by boosting the income of the bottom 40% of the population in every country.

The World Bank Group aims to tackle these challenges through financing, cutting-edge solutions, cross-sectorial knowledge, and partnerships with relevant public and private sector actors, as well as civil society. The organization's investments span across a number of sectors including education, health, public administration, private sector development, agriculture, and transport and digital development.

The Institutions and New Structure

The International Development Association (IDA) is the part of the World Bank that helps the world's poorest countries by providing concessional loans, or credits, and grants. The World Bank's original lending arm is the International Bank for Reconstruction and Development (IBRD), which lends to governments of middle-income and creditworthy low-income countries. The International Finance Corporation (IFC) provides loans, equity, and advisory services to stimulate private sector investment in developing countries. The Multilateral Investment Guarantee Agency (MIGA) provides political risk insurance or guarantees to facilitate foreign direct investment in developing countries. The International Centre for Settlement of Investment Disputes (ICSID) is also a part of the WBG, but will not be covered in this report.

The WBG has recently undergone major institutional change, and Transport and Digital Development is now a Global Practice. The Bank's new nimble structure with Global Practices and Cross-Cutting Solution Areas is designed to strengthen collaboration and improve knowledge sharing across the institution. These changes are

intended to improve operational efficiency, financial sustainability, and ultimately work toward meeting the twin goals of ending extreme poverty and boosting shared prosperity.

Enhancing Mobility and Connectivity

Transport is a critical driver of economic and social development. Transport infrastructure connects people to jobs, education, and health services; it enables the supply of goods and services around the world; and allows people to interact and generate the knowledge and solutions that foster long-term growth. The World Bank's transport investments have facilitated more efficient trade and enhanced human development through greater mobility.

As a multi-sectorial institution, the World Bank Group is uniquely positioned to support large-scale transformational projects and deliver innovative cross-cutting solutions for greater connectivity. The World Bank's strategy in the transport sector, adopted in 2008, envisioned mobility solutions for developing countries that would be safer, cleaner and more affordable. These three principles guide the Bank's infrastructure investments and policy work. The WBG is the largest provider of development finance for transport globally, with an active portfolio of around USD 48.2 billion.

Air transport plays an important role in fostering development, particularly in facilitating economic integration, generating trade, promoting tourism, and creating employment opportunities. It facilitates integration into the global economy and provides vital connectivity on a national, regional, and international scale. However, in many countries air transport equipment and infrastructure, regulatory frameworks, and safety and security oversight systems are inefficient or inadequate.

In view of these challenges and to assist clients in establishing a safe, secure, cost efficient, accessible and reliable air transport network, the Bank is mandated to undertake the following major activities:

- ◆ Operational work through projects and technical assistance.
- ◆ Economic sector work, research, and knowledge dissemination on air

transport related issues.

- ◆ External relations and collaboration with partner organizations.
- ◆ Internal services (such as the airline advisory service for WBG staff travel).

Portfolio and Project Highlights

In Fiscal Year 2020 (FY2020), WBG's Air Transport Portfolio amounted to USD 851 million, a decrease of 8.27 percent from FY2019 resulting from the COVID-19 Pandemic Crisis and the closing of larger airport infrastructure projects. The Air Transport segment makes up around 2.15 percent of the WBG's USD 39.5 billion Transport portfolio. The WBG's FY2020 Transport portfolio consisted approximately 12.0 percent of the WBG's active portfolio of USD 329.2 billion (excluding MIGA).

In FY2020, the Air Transport portfolio included a total of 31 lending and non-lending projects or project components through the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA), including active and completed projects. The International Finance Corporation (IFC)'s included nine active operations in its Investment portfolio and supported 28 Advisory Mandates. MIGA provided three Guarantees for the Air Transport Sector.

Three IBRD/IDA lending projects implemented in Kenya, Tonga and Vanuatu closed in FY2020 with satisfactory outcomes. For instance, the Kenya Transport Sector Support Project enhanced aviation safety and security standards leading to Kenya meeting safety and security standards set by ICAO and Department of Transportation of the USA. Kenya was granted Category 1 status on 27 February 2017 by the Federal Aviation Administration (FAA) thus allowing direct flights originating from Jomo Kenyatta International Airport (JKIA) to and from the USA. In addition, the capacity of the international passenger terminal destroyed in a fire at JKIA in 2013 was restored with project support, through the construction of fully operational international passenger terminal facilities with a combined capacity to handle three (3) million passengers annually.

It is also worthy to highlight the commencement of the second aviation Reimbursable Advisory Services in Central Asia, which will assist Uzbekistan in the implementation of the ongoing aviation sector restructuring, building on the previous successful results.

Four new aviation investment operations were approved in FY2020, including three Caribbean Regional Air Transport Connectivity Projects, in Haiti, Saint Lucia and Dominica. The development ob-

jectives of each of these projects are to (i) improve operational safety and navigation efficiency of air transport and (ii) enhance resilience of airport infrastructure to natural disasters. The project in Dominica was cancelled per Government's request in November 2020. Another project approved in FY2020 was the Sint Maarten Airport Terminal Reconstruction Project whose development objective is to restore the passenger capacity of Princess Juliana International Airport to pre-Hurricane Irma levels with improved resilience towards hurricanes.

Major active projects financed by the International Finance Corporation (IFC) include Queen Alia Airport in Jordan, the Zagreb Airport in Croatia, the Enfidha Airport construction in Tunisia, as well as Belgrade Airport in Serbia. In addition, the IFC investment portfolio also includes Lima Airport in Peru and the 14 Regional Airports in Greece.

In addition, IFC is active through the provision of Advisory Services for Kingston Airport (Jamaica), the Saudi Airports (26 in total), Sofia Airport (Bulgaria), Podgorica and Tivat (Montenegro), Beirut Airport (Lebanon) and Clark Airport (Philippines). For FY2020, it's important to highlight the Sofia Airport, in which IFC, as the lead transaction advisor, helped the government design a competitive and transparent tender for a public-private partnership—the first major PPP in Bulgaria over the last decade and the first under the country's new Concession Act.

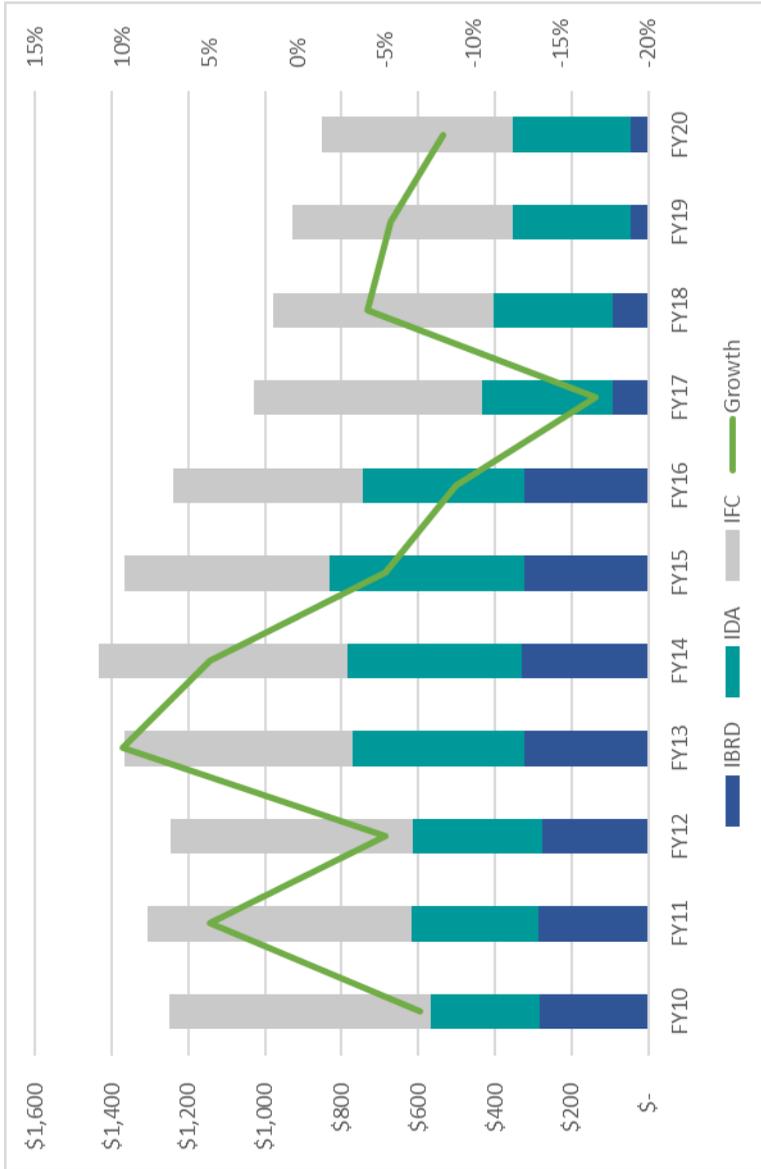
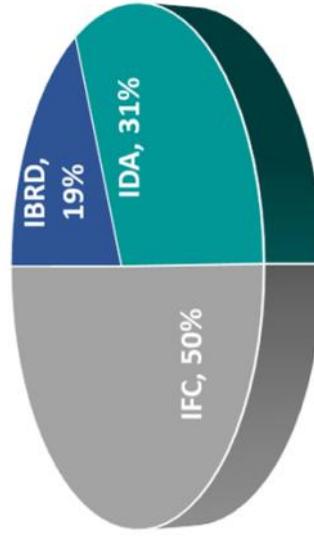
MIGA has been involved in the air transport sector in the past through the issuance of guarantees for three airport projects in Ecuador, Madagascar and Peru. The MIGA Guarantee provided to Peru expired in FY2020.

Research and External Relations

World Bank staff members continue to represent the organization externally at various air transport conferences and events, notably the 40th ICAO Assembly which took place in Montreal, Canada, in September 2019. Due to COVID-19, several international events were cancelled, but the WB Air Transport Team was always present in those that were carried out virtually. Research and knowledge dissemination also continue to constitute critical functions of the WBG's Air Transport Community of Practice (ATCOP). Looking forward, the practice maintains its strong commitment to addressing the challenges of its client countries.

PORTFOLIO

USD928M
FY19 WBG
AIR TRANSPORT
PORTFOLIO



TEN YEAR TREND - AIR TRANSPORT PORTFOLIO (US\$ Millions)											
	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
IBRD	282	285	277	325	329	325	325	325	92	44	44
IDA	287	334	336	447	457	507	420	341	311	309	310
IFC	679	686	633	593	647	535	496	596	576	575	497
Growth	-7%	5%	-5%	10%	5%	-5%	-9%	-17%	-4%	-5%	-8%
Total	1247	1305	1246	1365	1433	1367	1241	1029	979	928	851

The WBG is a vital source of financial and technical assistance to developing countries through low-interest loans, credits, and grants. In Fiscal Year 2020, the World Bank's Air Transport Portfolio was around USD 851 million. This included a total of 31 lending and non-lending projects or project components through the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA), as well as the International Finance Corporation (IFC)'s Investment portfolio. In addition, IFC is supporting 28 Advisory Mandates and MIGA is providing 3 Guarantees for the Air Transport Sector.

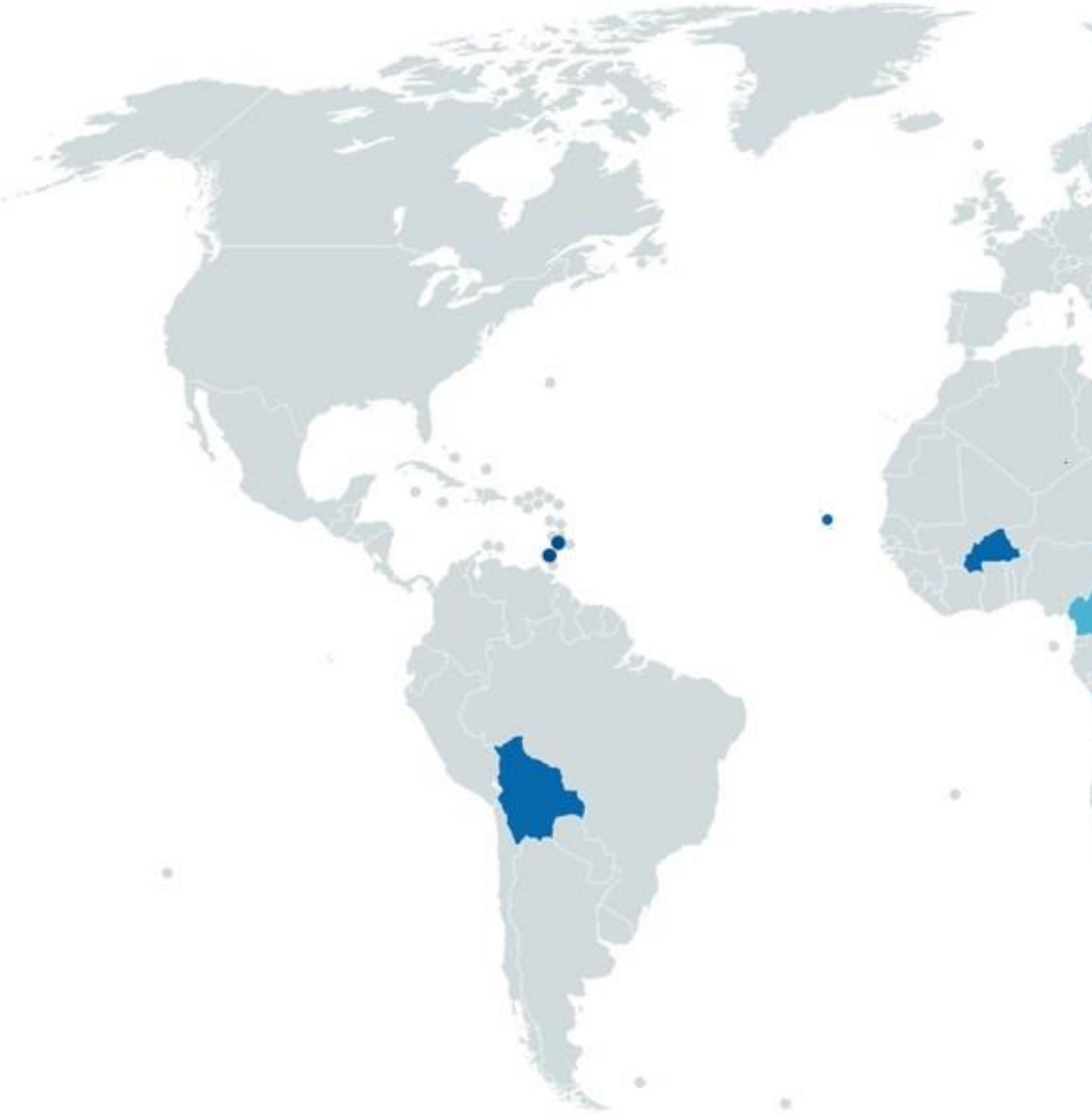
Active Portfolio	IBRD			IDA			IFC			TOTAL		
	FY20	FY19	Change	FY20	FY19	Change	FY20	FY19	Change	FY20	FY19	Change
<i>(in millions USD)</i>												
WB Group Total Active Portfolio	133,679	124,639	7.25%	136,856	123,911	10.45%	58,650	58,847	-0.33%	329,185	307,397	7.09%
WB Group Active Portfolio-Transport	23,593	25,019	-5.70%	13,873	14,453	-4.01%	2,026	2,349	-13.75%	39,492	41,821	-5.57%
Transport % of Total Active Portfolio	17.65%	20.07%	-2.43 pp	10.14%	11.66%	-1.53 pp	3.45%	3.99%	-0.54 pp	12.00%	13.60%	-1.61 pp
Air Transport Active Projects	44.16	44.16	0.00%	309.72	308.58	0.37%	497.15	574.97	-13.53%	851.03	927.71	-8.27%
% of Total Active Portfolio	0.03%	0.04%	-0.01 pp	0.23%	0.25%	-0.03 pp	0.85%	0.98%	-0.13 pp	0.26%	0.30%	-0.05 pp
% of Total Transport Portfolio	0.19%	0.18%	0.02 pp	2.23%	2.14%	0.1 pp	24.54%	24.48%	0.07 pp	2.15%	2.22%	-0.07 pp

pp=percentage points

Note: Excluding the Multilateral Investment Guarantee Agency (MIGA)

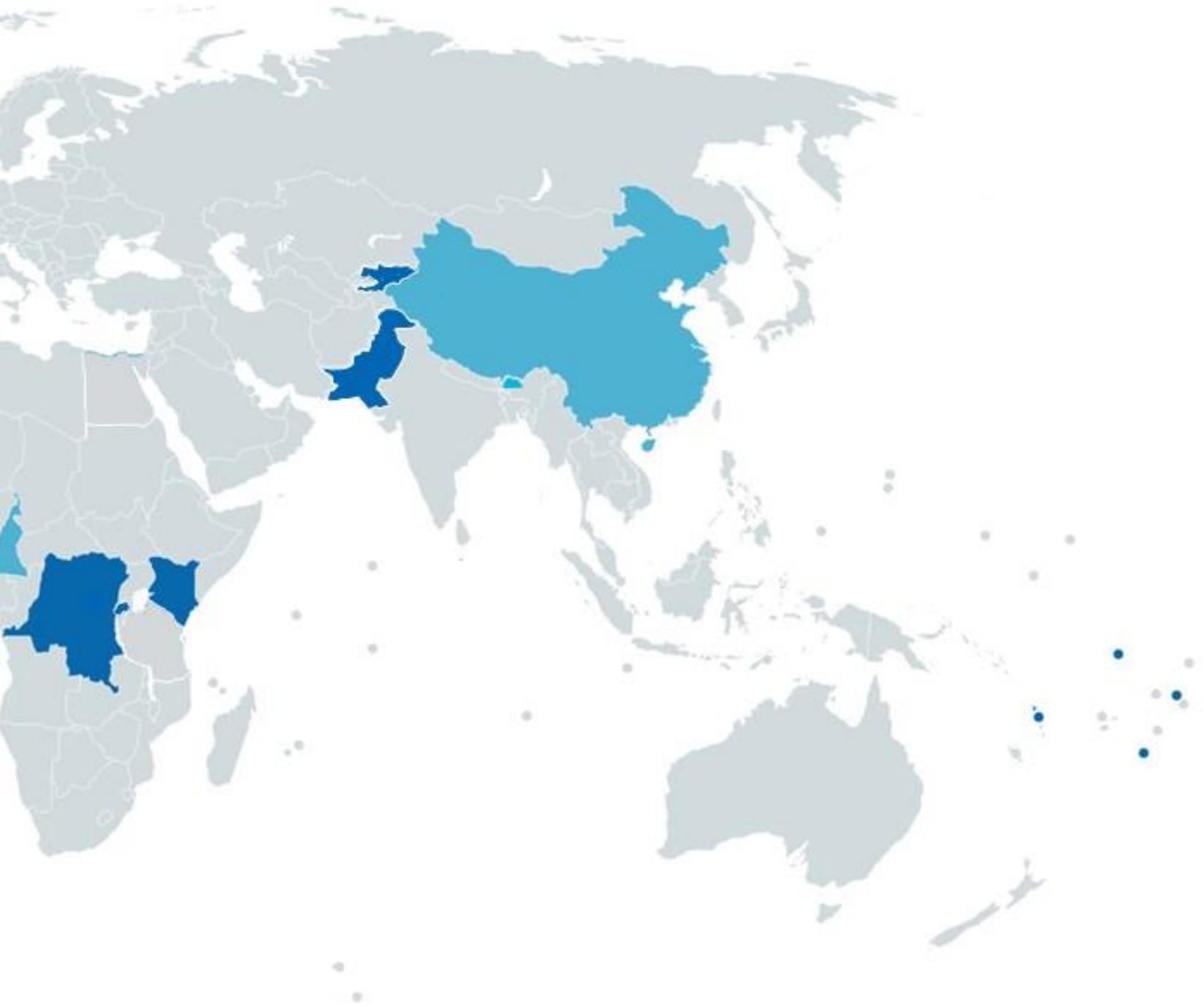
For IFC, outstanding balances across all product categories (loans, quasi loans, equity at acquisition cost, quasi-equity, risk management and guarantees)

Active Air Transport Projects in FY19: IBRD and IDA invest in a number of air transport projects worldwide focusing on regulatory reform, capacity building and infrastructure investments, as well as technical assistance and analytic/advisory services.



World Bank Commitment (Lending)

- IBRD
- IDA



IBRD AND IDA LENDING PROJECTS

Region	Country	Project Code	Project Name	Description of Aviation Component (s)	WBG Commitment (USD M)		Type	Status as of End of FY2020
					Total (USD M)	Aviation Component		
Africa	Cabo Verde	P126516	Cabo Verde - Transport Sector Reform	Institutional capacity building, technical assistance, and support of national airline	46.0	5.06	IDA Credit	Active
Africa	Cameroon	P150999	CMR Transport Sector Development Project	To improve safety and security at Cameroon's four international airports	192.0	44.16	IBRD	Active
Africa	Democratic Republic of Congo	P153085	DRC-Goma Airport Project	Improve the safety, security, and operations of Goma International Airport through infra-structure investments and capacity building	52.0	45.24	IDA Grant	Active
Africa	Democratic Republic of Congo	P159217	DRC Hydromet	Institutional and regulatory strengthening, capacity building and implementation support, as well as modernization of equipment, facilities and infrastructure for basic observation and meteorological forecasting	8.0	0.87	IBRD	Active
Africa	Kenya	P124109	Transport Sector Support Project	Enhance aviation security and safety, and improve institutional capacity	503.5	45.32	IDA Credit	Closed
Africa	Rwanda	P151083	Great Lakes Trade Facilitation Project	Rehabilitation of Kamembe International Airport by Lake Kivu in Southwestern Rwanda	79	14.2	IDA Credit	Active
East Asia Pacific	Samoa	P143408	Samoa Aviation Investment Project	Improve operational safety and oversight	41.6	38.3	IDA Grant	Active

Region	Country	Project Code	Project Name	Description of Aviation Component (s)	WBG Commitment (USD M)		Type	Status as of End of FY2020
					Total (USD M)	Aviation Component		
East Asia Pacific	Solomon Islands	P166622	Solomon Islands Roads and Aviation Project	Improve operational safety and oversight of air transport and associated infrastructure	51.0	36.2	IDA Grant	Active
East Asia Pacific	Tonga	P128939	Tonga Pacific Aviation Investment	Infrastructure investment, sector reform and training, and strengthening airport operations and management capacity	34.5	26.53	IDA Grant	Closed
East Asia Pacific	Tonga	P161539	Tonga Climate Resilient Transport Project	Aviation sector infrastructure rehabilitation at Salote Pilolevu Airport, Ha'apai.	26.0	3.0	IDA Grant	Active
East Asia Pacific	Tuvalu	P128940	Tuvalu Pacific Aviation Investment	Infrastructure investment, sector reform and training	29.5	25.7	IDA Grant	Active
East Asia Pacific	Vanuatu	P154149	Vanuatu Aviation Investment Project	physical works for Bauerfield International Airport runway rehabilitation and apron pavement improvements	73.6	67.71	IDA Credit	Closed
East Asia Pacific	Pacific Islands	P145057	Pacific Aviation Safety Office Reform	Strengthen the Pacific Aviation Safety Office's technical and coordination capacity	5.7	0.65	IDA Grant	Active
Europe and Central Asia	Kyrgyz Republic	P159220	Central Asia Regional Links Program - Phase 3	Strengthening safety and service provision of the aviation sector	54.46	4.5	IDA Grant and IDA Credit	Active

IBRD AND IDA LENDING PROJECTS (continued)

Region	Country	Project Code	Project Name	Description of Aviation Component (s)	WBG Commitment (USD M)		Type	Status as of End of FY2020
					Total (USD M)	Aviation Component		
Latin America and the Caribbean	Bolivia	P122007	BO National Roads & Airport Infrastructure	Infrastructure development; improve safety, security and operational reliability of the Rurrenabaque Airport	109.5	5.48	IDA Credit	Active
Latin America and the Caribbean	Eastern Caribbean Sub-Region	P117871	6O Regional Disaster Vuln Reduct. Projects	Regional Platforms for Hazard and Risk Evaluation, and Applications for Improved Decision Making	20.9	5.01	IDA Credit	Active
Latin America and the Caribbean	Dominica	P171224	Caribbean Regional Air Transport Connectivity Project	Enhancing the safety and resilience of Dominica's two existing airports and Dominica's efforts to comply with ICAO SARPs and abide by the POS Declaration. Strengthen the capacity in air transportation operations and airport investment planning .	13	13	IDA Credit	Activated but Cancelled in November 2020
Latin America and the Caribbean	Haiti	P170907	Caribbean Regional Air Transport Connectivity Project	Finance infrastructure and equipment at Haiti's two international airports to improve aircraft operating conditions in compliance with international safety standards, navigation/taxiing efficiency. Finance investments that seek to reduce the risk of airfield flooding.	84	84	IDA Grant	Active

Region	Country	Project Code	Project Name	Description of Aviation Component (s)	WBG Commitment (USD M)		Type	Status as of End of FY2020
					Total (USD M)	Aviation Component		
Latin America and the Caribbean	Saint Lucia	P170860	Caribbean Regional Air Transport Connectivity Project	Improve the operational safety and flood disaster resilience of the runway at UVF, support Saint Lucia to comply with ICAO's SARPs, improve air traffic safety and efficiency as well as strengthen resilience for air traffic navigation, strengthen the Government's institutional capacity in managing, developing, operating, and overseeing their airports and air transport operations.	45	45	IDA Credit	Active
Latin America and the Caribbean	Sint Maarten	P167974	Airport Terminal Reconstruction Project	Support the reconstruction of the PJIA terminal facilities to restore airport function and to improve its resilience to hurricanes, Capacity Building of and Project Management by PJIAE and the Government, Support of PJIAE Operations during the reconstruction period.	72	72	IDA Grant	Active
South Asia	Bhutan	P154477	Hydromet Serv & Dis Resilience Regional	The financing of aviation meteorology equipment, hardware and software to enhance aviation safety at Paro International Airport	3.8	0.8	IBRD	Active
South Asia	Pakistan	P163924	Pakistan Hydromet & DRM Services Project	Upgrading of the monitoring and forecasting system at airports to improve aviation services, and the installation of an Aircraft Meteorological Data Relay system at 10 international airports.	188.0	11.28	IDA Grant	Active

IBRD AND IDA NON-LENDING PROJECTS

Region	Country	Project Code	Project Name	Description of Aviation Component (s)/ Activities	Aviation Component	Type	Status as of End of FY2020
Africa	Kenya	P175868	Kenya Aviation Outlook	To undertake a Strengths, Weakness, Opportunities and Threat analysis of the newly proposed publicly owned Kenya Aviation Holding Company governance structure, accountabilities, and debt management obligations to generate a 10-year risk profile. The analysis will inform how the World Bank Group can rationalize its support to Kenya's public service obligations for safe and secure aviation systems, including relevant international airport investments constrained by the disruption in sector revenues, while providing an engagement roadmap predicated on institutional arrangements that ensure a transparent and accountable governance framework for the air transport sector.	100%	AA	Active
Africa	Zimbabwe	P157125	Transport Sector Support to ZIM-REF Capital Budget TA	Support to civil aviation restructuring by conducting a detailed restructuring study to inform decisions on financial risks, organizational structure, and future investments in aviation sub-sector.	20%	AA	Active
Africa	Zambia	P170276	Transport Sector PPP-support	Support to review potential options to use PPP-based transactions to develop/operate/maintain several infrastructure investments in the Transport Sector. These include: (i) operation and maintenance of Kenneth Kaunda International Airport; (ii) upgrading, operation and maintenance of the Lusaka East ring road; (iii) operation and maintenance of Simon Mwansa Kapwepwe International Airport; (iv) development of a Warehousing, Transportation and Logistics Park in Lusaka; (v) upgrading, operation and maintenance of the Solwezi-Kipushi Road; and (vi) upgrading, operation and maintenance of the Chingola-Solwezi Road. Some of these activities will change as more information becomes available.	50%	AA	Active

Region	Country	Project Code	Project Name	Description of Aviation Component (s)/ Activities	Aviation Component	Type	Status as of End of FY2020
Africa	Regional	P171737	Unlocking Drones for Development	To unlock the lower skies for mobility and digital service in African markets, by creating (i) a platform for knowledge exchange, networking and partnership around African market needs and opportunities, and by enabling (ii) a robust regulatory dialogue.	100%	AA	Active
Europe and Central Asia	Europe and Central Asia	P165756	Greener Transport Connectivity for the Six Eastern Partnership Countries	This project has three main activities. The first activity involves developing a connectivity model with geospatial representation based on the basic transport model prepared for the EaP Transport Panel Secretariat (P162871). Using this model/tool, the second activity assesses the impact in terms of connectivity and environment of green transport policy measures, including (i) identification of a prioritized investments plan to remove key bottlenecks, (ii) use of market instruments to internalize external effects of enhanced connectivity, (iii) impact of road safety measures on green transport, (iv) development of freight hubs and directions towards the physical internet, and (v) transit facilitation measures. Finally, the third activity will assess the use of both traditional and innovative instruments to finance the implementation of these measures.	25%	AA	Closed
Europe and Central Asia	Uzbekistan	P168374	Uzbekistan Transport and Logistics Strategy	The World Bank is supporting the development of a high-level Transport and Logistics Policy that would provide a vision to policymakers and serve as an input for the preparation of a full-fledged Transport and Logistics Strategy by (i) laying out the higher-level objectives, vision and priority directions for the development of the sector, (ii) defining the key aspects for institutional reforms, (iii) identifying logistics and transport gaps and barriers, and (iv) presenting options for introduction of innovative financings mechanisms/PPP options in transport and logistics sectors. The ASA is covering railway, roads, aviation, and freight transport and logistics services. To achieve its objectives, the ASA includes the following activities: (ii) assessment of the current and projected needs in the transport and logistics sector; (ii) assessment of the institutional and policy framework in the transport and logistics sector; and (iii) assessment of innovative financing products.	25%	AA	Closed

IBRD AND IDA NON-LENDING PROJECTS (continued)

Region	Country	Project Code	Project Name	Description of Aviation Component (s)/ Activities	Aviation Component	Type	Status as of End of FY2020
Europe and Central Asia	Uzbekistan	P171027	PPPs and Sustainable Financing in Transport Sector	The proposed ASA will continue the dialogue with the GoU on developing sustainable financing mechanisms and attracting private sector for financing various investments in the transport and logistics sectors. This will entail the following: (i) provision of policy advice to the GoU on advancing the PPP agenda in transport and logistics sectors; (ii) support to the GoU institutions in identifying and building a pipeline of bankable projects in the sector; (iii) provision of just-in-time policy and technical advice on leveraging private sector participation in financing transport investments, including non-traditional sources of financing, to maximize the value-for-money; and (iv) assistance in developing a PPP investment program for transport projects with the greatest potential in maximizing financing for development (MFD). The activity will result in identification and generation of specific MFD-type projects that can be supported through lending or guarantees financed by the World Bank Group (WBG) and/or other financiers to leverage private sector investments in transport.	25%	AA	Active
Europe and Central Asia	Uzbekistan	P171028	Support to Aviation Sector Reforms Phase 2	The additional support under the RAS Phase 2 will assist in the implementation of the ongoing sector restructuring by: (i) advancing institutional reforms initiated under the Presidential Decree No. 5584 on aviation (dated November 27, 2018); (ii) strengthening capacities in the sector, including that of the policy-making and regulatory oversight; (iii) formulating a National Aviation Policy; (iv) improving the sector's ability to meet the growing air transport demand; (v) enhancing the performance and sustainability of SOEs in aviation sector in the context of the current unbundling efforts; and (vi) facilitating private sector investment in the sector.	50%	AA	Active

Region	Country	Project Code	Project Name	Description of Aviation Component (s)/ Activities	Aviation Component	Type	Status as of End of FY2020
Middle East and North Africa	Djibouti	P165946	Djibouti Transport Technical Assistance	The development objective is to support the Government of Djibouti's efforts to improve the performance of the Transport sector in the country. The activity will achieve this by developing a Transport Sector Development Plan / White Paper to identify (i) key reforms for the sector to increase its efficiency and (ii) a pipeline of potential Public-Private Partnership projects. The activity will be undertaken in the following three phases: (i) doing an overall transport sector diagnostic (existing transport infrastructure assessment, Djibouti's competitiveness assessment, institutional assessment, revenue analysis, and identifying the existing bottlenecks); (ii) identifying the gaps in the existing institutions and infrastructure, the needed reforms to optimize the utilization of existing infrastructure, future investment needs, and potential for private sector participation in the transport sector; and (iii) focusing on one or several sub-sectors (such as roads and urban transport) to improve their competitiveness and financial situation through private sector participation.	16%	AA	Closed
Middle East and North Africa	Bahrain	P172994	Bahrain Aviation Sector Policy, Regulatory and Institutional Reforms	This RAS will develop and support implementation of regulatory, institutional and legal framework needed to reform the aviation sector and to establish the foundation for private sector participation. There will be four main tasks, each having several sub-tasks as following. This methodology assumes no changes in competitive positions, i.e. no market entries or exits by competing airlines: (i) review of air transport infrastructure; (ii) development of an institutional and policy framework; (iii) Develop PPP capacities for the aviation sector; (iv) market and traffic Forecast. The final report will include a road map for the subject sector reforms and where/how the World Bank can be of support.	100%	AA	Active

IBRD AND IDA PIPELINE PROJECTS

Region	Country	Project Code	Project Name	Description of Aviation Component	WBG Commitment (USD M)		Type	Status as of End of FY2019
					Total (USD M)	Aviation Component		
Africa	Tanzania	P165660	Tanzania Development Corridors Transport Project	Finance the upgrading and rehabilitation of three priority regional airports out of the eleven airports.	550.0	84	IDA	Pipeline FY2022
Africa	Kenya	P167734	Kenya Aviation Systems Improvement Project	Improvement of aviation safety, security and strengthening of air transport institutions. This will be achieved through the installation of an integrated security systems at major airports; automation of regulatory functions at KCAA; installation of air navigation system; construction of an air accident investigation workshop at JKIA and strengthening the capacity of KCAA, KAA and the State Department of Transport.	100.0	100	IDA	Pipeline FY2021



AFRICA

Project Highlights



CABO VERDE Cabo Verde Transport Sector Reform Project (P126516)

The Bank approved a USD 19 million IDA Credit for the Cabo Verde Transport Sector Reform Project (TSRP) in FY2013 as well as an IDA Credit Additional Financing (AF) for USD 27 million in FY2017. The Project's Development Objective (PDO) is to improve efficiency and management of the national road assets and to lay the groundwork for transport sector State Owned Enterprise (SOE) reform. Under its fourth component (Inter-island Transport Strategy), the project is supporting the improvement of the inter-island sea and air transport services quality as well as the management of ports and airports, and the efficiency of transport SOEs. Among the concerned transport sector SOEs is TACV, the national airline company, which is structurally in deficit. Making the right decision on TACV requires strong political will and leadership given the sensitivity of the company in Cabo Verde.

In 2017, a decree for the privatization law of the national airline company, TACV, renamed as Cabo Verde Airlines (CVA) was adopted and published. As

of the end of FY2020, Due to the Covid-19 pandemic, the remaining privatization of CVA has been suspended. The State retains a 39% share in the company. The World Bank team maintained that it is important to continue monitoring the situation of the company, and report transparently on all debts and contingent liabilities arising from the reform of CVA. In terms of air travel, all flights were suspended during the state of emergency. Only international humanitarian flights were being allowed until 31 July 2020 while inter-island flights resumed on 15 July 2020. The project is financing two new activities related to the reform of the airline: (i) financial monitoring services; and (ii) legal support services.

The AF is financing the costs associated with the scaling up of the original Project by supporting the implementation of additional activities, which are aligned with the original PDO, including the extension of the project closing date from 30 June 2019 to 31 December 2020. With the extension of the project closing date, the Government took the opportunity to reprioritize the technical assistance activities in the sector and prioritize activities they believe can have a direct and immediate impact on the sector and support the post-Covid recovery. A few activities have been cancelled (feasibility study for special economic



zone, development of aviation hub, strategic development plan for air transport, creation of the national observatory of air transport, capacity building of the Directorate General for air transport). New activities the project is now financing include: (i) the development of a training plan for the aviation sector; (ii) support to improve the statistical center within the civil aviation authority to collect and analyze data; and, as mentioned above, (iii) financial monitoring services and legal support services related to CVA. The Government is also continuing with already approved activities including the review of the legal and regulatory framework (with adaptation to regulation and new challenges of the Covid-19 pandemic), and a study on public service obligations (phase 1 complete). These proposed activities and workplan have been approved by the project steering committee, which consists of representatives of the relevant ministries (Ministry of Infrastructure, Territorial Planning, and Housing through ECV, Ministry of Internal Administration through DGTR, Ministry of Maritime Economy, Ministry of Transport and Tourism, PCU) and is presided by the Ministry of Finance, through a representative of the National Planning Directorate (DNP).

It is important to note that The Government still intends to privatize the airport company ASA through a concession. The World Bank's SOE Project is financing consultancy services to advise the Government. A working group, led by the Secretary of State of Finance, is handling the privatization processes of both ASA and CV Handling.

Contact persons are Vincent Vesin at vvesin@worldbank.org and Shruti Vijayakumar at svijayakumar@worldbank.org

CAMEROON

CMR Transport Sector Development Project (P150999)

In FY2017, the Board of the World Bank approved a USD 192 million IBRD credit for the Cameroon Transport Sector Development Project, whose development objectives are to: (a) strengthen transport planning; (b) improve transport efficiency and safety on the Babadjou-Bamenda section of the Yaounde - Bamenda transport corridor (about 364 km); and (c) enhance safety and security at selected airports. More specifically, it will support the design and implementation of the Transport Priority Investment Program (TPIP), which is a key output of the integrated intermodal transport strategy (IITS) currently being prepared under the World Bank-financed Cameroon Multimodal Transport Project (P143801). The TPIP is expected to help the Government of Cameroon move from its current ad-hoc approach to transport invest-

ment financing by providing a holistic platform on which to base investment and financing decisions.

The Project's third component, Air Transport Safety and Security Improvement, focuses primarily on facilitating International Civil Aviation Organization's (ICAO) effective implementation rating of Aerodrome and Ground Assistance at project airports (Yaoundé, Douala, Garoua and Maroua), as well as the ICAO's rating of Cameroon's security oversight system. It has the following subcomponents: (a) Strengthening of airport safety and security infrastructure; (b) Strengthening air transport safety and security oversight; and (c) Strengthening of planning capacity in air transport. As of the end of FY20, the implementation of the aviation project component (24 percent of project cost) was progressing well. Works of the Yaoundé Airport bypass road are well underway (80 percent completion rate) despite temporary suspension due to the COVID-19 pandemic. The construction of the Emergency Operations Center at the Yaoundé airport was expected to be completed in the fall of 2020. Works of the Emergency Operations Centers at the other two international airports (Garoua and Maroua) had begun with the mobilization of the contractors.

Contact persons is Papa Mamadou Fall at pfall@worldbank.org

DEMOCRATIC REPUBLIC OF CONGO

Goma Airport Safety Improvement Project (P153085)

In FY2015, the World Bank's Board approved a USD 52 million IDA grant to help improve the safety, security, and operations of Goma International Airport, the main international gateway of Eastern Democratic Republic of Congo (DRC) and rehabilitate the damaged infrastructure. The airport is a vital link to connecting the area to the rest of the country and supporting ongoing peace consolidation efforts. In addition to decades of conflict, the most significant damage to the airport's sole runway and taxiway resulted from the 2002 Mount Nyiragongo volcano eruption.

The lava flow from the volcano buried more than one third of the 3,000-meter runway and isolated the terminal and apron, constraining humanitarian aid flows, UN operations, and passenger and cargo transport. There have been seven recorded air crashes since 2002 at the airport with dozens of fatalities, many of them attributed to the condition of the airport.

The project seeks to restore the airport's runway original length, rehabilitate the apron, existing passenger and cargo terminals, and electrical system, as well as supply a new low-cost control tower and navigational



equipment to upgrade air navigation. The project also includes the construction of the airport's security fence and support airport rescue and firefighting services.

The project is supporting the valorization of the large quantity of lava rock removed from the airport through labor intensive activities targeted to communities living close to the airport. The project will also complement a Japan-GFDRR grant supporting the monitoring of volcano risks and strengthening preparedness of the airport and surrounding communities. The significance of the project is evident – DRC's landmass is almost as large as the whole of Western Europe. Therefore, transport remains key to increasing agriculture, improving trade, supporting mining growth, overcoming the economic and social barriers that isolate communities, and providing security throughout the country.

By the end of FY2020, all works had slowed down due to the various COVID-19 pandemic restrictions. Works completion had been delayed, although expected to remain within the project lifetime for the most part. Notably, the construction of the power plant was delayed because some of the equipment could not be installed as the contractor's technicians could not travel to DRC. The construction of the control tower may not be completed by the current project closing date, as some of the control tower equipment could not be shipped to DRC, since the Goma airport authority had to check and test them physically.

Discussions about the need of a project restructuring had begun, with the purpose to consider all changes made to the project's scope throughout its implementation and address the delays resulting from the COVID-19 pandemic. This restructuring will not change the project's development objective.

Contact persons are *Tojoarofenitra Ramanankirahina* at tramanankirahina@worldbank.org and *Bertram Boie* at bboie@worldbank.org

DEMOCRATIC REPUBLIC OF CONGO
Strengthening Hydro-Meteorological and
Climate Services
(P159217)

In FY2017, The Bank approved a USD 8 million IBRD loan for a Global Environment Project for the Democratic Republic of Congo (DRC), with the objective to improve the quality and strengthen the country's Hydro-Meteorological (Hydromet) and Climate Services.

Understanding hydromet and climate risks would help assess social and economic impacts and develop adequate policy responses to support the country's sustained development. A number of economic sectors in the DRC could specifically benefit from more accurate, relevant and timely hydromet information, warning and services. Such are the cases of airfreight and aviation. Meteorological assistance to

aviation is made in relation with DRC's air navigation service provider, Régies des Voies Aériennes S.A. (RVA). RVA is a private company owned by the State that has to comply with the ICAO regulations and benefits from air traffic levies collected from airlines for airport and enroute services. The meteorological infrastructures of the international airport of N'djili Kinshasa as well as of the other airports in the country belong to National Agency for Meteorology and Remote Sensing (MettelSat). At present, the meteorological services to aviation are provided by RVA in N'djili, which is the largest airport in DRC, and in three other international airports. RVA has hired about 50 meteorologists based in Kinshasa, and is in the process of training and recruiting 20 new meteorologists. MettelSat owns and operates presently 22 observing stations on airports, but most of the data are not available and no forecasts for aviation are issued.



Under Component A (Institutional and regulatory strengthening, capacity building and implementation support), the project is investing in the human and institutional resources that can implement and sustain hydromet observation and forecasting, including the carrying out of an Institutional diagnosis with a comparative review of the roles and mandates of the different government agencies involved, such as RVA and MettelSat, to identify the main actions required to increase cooperation and avoid overlap between agencies, ensuring an efficient development of hydrometeorology in DRC. Under Component B (Modernization of equipment, facilities and infrastructure for basic observation and forecasting), the project is supporting the reinforcement and rebuilding of the basic networks for observation and forecasting, as well as in infrastructure needed for provision of services by MettelSat.

By the end of FY2020, activities under all components had experienced delays. Despite the ongoing Covid-19 pandemic, progress was being made to catch up at least partially on planned activities. Under Component A, MettelSat signed 8 memorandums of understanding (MoUs) with other institutions providing or using hydromet information, thus laying the

foundation for better operational collaboration and coordination in the sector. In addition, progress has been made through partnering with the “Ecole Africaine de la Météorologie et de l'Aviation Civile” (EAMAC) based in Niamey to implement a long-term training plan aimed at developing MettelSat institutional capacity, to allow upstart directly upon deconfinement of the Kinshasa city center. The implementation of a quality management system was started before the Covid-19 pandemic but then put on hold; it is expected to restart with other activities.

Under Component B, Progress has been achieved in terms of rehabilitation of the MettelSat buildings. The rehabilitation of the building housing technical functions in Kinshasa was finalized and the administrative building rehabilitation was expected to be completed shortly after. Rehabilitation of the MettelSat office in Kisangani is also ongoing and likewise expected to be finalized shortly. A stable electrical power connection was being established for MettelSat. In addition, the project is funding installation of 8 synoptic stations that were funded by another source. A diagnostic mission to assess the operational status of existing stations was postponed due to travel restrictions, but once completed it will determine the number of stations feeding the central online data platform and result in a maintenance and repair plan. In the context of acquisition of meteorological and hydrological equipment, the project signed a contract with an international consortium on 8 May 2020.

Contact persons are Christian Vang Eghoff at ceghoff@worldbank.org and Koffi Hounkpe at khounkpe@worldbank.org

KENYA TRANSPORT SECTOR SUPPORT PROJECT (P124109)

A USD 300 million IDA Credit for the Transport Sector Support Project in Kenya was approved in 2011 as well as an Additional Financing (AF) of USD 203.5 million in FY2014, and closed on 31 December 2019. The PDO were to: (a) increase the efficiency of road transport along the Northern Corridor and the Tanzania-Kenya-South Sudan road corridor; (b) enhance aviation safety and security to meet international standards; (c) improve the institutional arrangements and capacity in the transport sector; (d) restore the capacity of the international passenger terminal destroyed in a fire at Jomo Kenyatta International Airport (JKIA); and (e) strengthen the capacity of Kenya Airports Authority (KAA) in disaster preparedness and responsiveness at Kenyan airports.

The aviation component of the project entailed providing support to the Kenya Civil Aviation Authori-

ty (KCAA) in regulatory capacity building and through specific investments in navigation aids and training equipment. In addition, support to KAA included the provision of a new baggage-handling system at JKIA, and capacity building and training of manpower in safety, security, and airports management.

Following the fire at the JKIA in August 2013 that destroyed the only international arrival building, the Bank provided an AF of USD 203.5 million to help finance activities to restore the capacity of the international passenger terminal destroyed in a fire at JKIA, strengthen KAA in disaster preparedness and responsiveness at Kenyan airports, and fill any unanticipated financing gaps.

All PDO were achieved. The following activities contributed to the attainment of the second PDO outcome (Enhance aviation safety and security to meet international standards): (i) Technical Advice (TA) for Restructuring of KCAA; (ii) Construction of an office block for KCAA headquarters; (iii) Upgrading KCAA's ICT facilities; (iv) upgrade and modernization of air navigation systems; (v) Training manpower in safety, security and oversight in the civil aviation industry. Due to these interventions, aviation safety and security standards were enhanced leading to Kenya meeting safety and security standards set by ICAO and Department of Transportation of the USA. Kenya was granted Category 1 status on 27 February 2017 by the Federal Aviation Administration (FAA) thus allowing direct flights originating from JKIA to and from the USA. Kenya Airways commenced direct flights to New York, USA on 28 October 2018. Kenya and JKIA continue to meet ICAO safety standards since 2017 and thus continues to operate direct flights to USA. Currently, there are only less than 10 countries in Africa who continue to

meet these standards. Considering that there are countries who have been downgraded by FAA in the past, obtaining and maintaining Category 1 status by Kenya demonstrates the enhanced capacity of the sector and the country. In addition, human capital has been enhanced through training of staff both national and from the Africa region at the EASA which is accredited by ICAO as a regional center of excellence with support from the project.

The fourth PDO (Restore the capacity of the international passenger terminal destroyed in a fire at JKIA) was achieved following the construction of fully operational international passenger terminal facilities with a combined capacity to handle three (3) million passengers annually to replace those that were destroyed in an accidental fire. The constructed facilities include: (i) temporary international passenger facilities, Terminal 1-E; (ii) a permanent arrivals for Terminal 1-A; and (iii) temporary lounges for airlines. Other emergency related activities completed included: (i) Supply and installation of Integrated Security Management System for temporary international passenger terminal; and (ii) supply and Installation of ITS.

Operations at the airport were restored within the same day of the fire and exceeded pre-fire capacity by the end of one year. The adverse impact on tourist and horticultural industries that heavily rely on air transport was minimized. Thus, the outcome indicator 'Passenger terminal capacity restored by installation of prefabricated facilities' was achieved.

The fifth PDO (Strengthen the capacity of KAA in disaster preparedness and responsiveness at Kenyan airports) was achieved through: (i) streamlining of the institutional arrangements at airports in the country by





making the Chief Executive Officer of Kenya Airports Authority fully responsible and accountable for coordinating all the affairs at the airports as well as the stakeholders thereby clarifying the chain of command, making leadership and coordination where collective action is needed, such as at the time of an emergency or disaster; (ii) developing and strengthening of disaster preparedness and response systems at airports and purchase of firefighting equipment; and (iii) training (and resultant competency) of staff in disaster preparedness and management of which 100 Kenyan Airport Personnel were trained under the project. The outcome indicator 'Number of Kenyan Airport Personnel trained in disaster preparedness and responsiveness strengthened' was achieved.

It is worthy to note that the private sector participated in the project through financing some of the activities mainly associated with response to the fire disaster at JKIA. These included providing airside buses (which was estimated to cost USD 2.7 million); mobile weatherproof steps (USD 1.0 million); booths and many other small assorted items that enabled operations of the airport to resume virtually on the same day of the fire incident.

Contact persons are *Josphat O. Sasia* at Jsasia@worldbank.org, *Akiko Kishiue* at akishiue@worldbank.org and *Susan Apudo Owuor* at sowuor@worldbank.org

RWANDA GREAT LAKES TRADE FACILITATION PROJECT (P151083)

In FY2016, a USD 79 million IDA Credit for the Rwanda Great Lakes Trade Facilitation Project. The Project Development Objective (PDO) of this project is to facilitate cross-border trade by increasing the capacity for commerce and reducing the costs faced by traders, especially small-scale and women traders, at targeted locations in the borderlands.

The Great Lakes Trade Facilitation Project includes improvements in border crossing management for Rwanda, Congo DRC, Uganda, and COMESA. As part of the package, Kamembe International Airport by Lake Kivu in Southwestern Rwanda is being rehabilitated with an investment of USD 14.2 million. The airport is seen as a strategic gateway for trade, since neighboring Bukavu, only seven km away from the airport and across the border with Congo DRC, has a population of over one million and no convenient airport access. The airport is seen as an important gateway for trade in the region, as the main passengers on flights from the airport are Congolese heading, via Kigali, to major trade centers such as Dubai.

As of the end of FY2020, implementation Progress of the project in Rwanda included civil works at two main sites, Nyamasheke border market and Kamembe Airport. Physical progress at Nyamasheke market was at 83% complete when lockdown measures were introduced in response to Covid-19 while progress at Kamembe was at more than 20% complete. In both cases, the lockdown measures resulted in the suspension of works. However, the fabrication and manufacturing of equipment and items for the airport continued in South Africa and Europe. Some of the materials had started shipping but were expected to face delays. Nevertheless, delays resulting from the Covid-19 crisis were expected to require extension of the civil works contracts' closing dates, and thus of the project closing dates, and thus of the project.

Contact persons is *Charles Kunaka* at ckunaka@worldbank.org

EAST ASIA & PACIFIC

Project Highlights



SOLOMON ISLANDS SOLOMON ISLANDS ROADS AND AVIATION PROJECT (P166622)

A USD 30.5 million IDA Credit as well as an USD 20.5 million IDA Grant was approved for the Solomon Islands Roads and Aviation Project (SIRAP) in March 2019. This will be complemented by USD 3.6 million counterpart funding from the Solomon Islands Government (SIG). The Project's Development Objective is to Improve operational safety and oversight of air transport and associated infrastructure, strengthen the sustainability and climate resilience of the Project Roads, and in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency. PDO achievement Progress will be measured against the following proposed PDO-level results indicators: (i) Airport Certification according to ICAO safety and security standards at Honiara and Munda Airports; (ii) percentage of State requirements for safety and security non-compliance reach global ICAO average; (iii) percentage of modernization of air traffic main roads in very good or good condition (Percentage); (iv) Percentage of gravel roads on Malaita main roads in good or fair condition; and (v) Crisis and Emergency Risk Communication (CERC Manual) adopted by SIG with appropriate training.

Pertaining to aviation, the project is supporting Honiara and Munda Airports Infrastructure Investments to improve operational safety and overall infrastructure resilience to climate change at Honiara, enabling Munda airport to receive international flights with an enhanced resilience to climatic disasters, and contracts that will include surveys to identify and remove unexploded ordnance (UXO) from Second World War at both airports. In addition, the project will support aviation sector institutional strengthening for: (i) training needs analysis; (ii) airport operational training; (iii) airport regulatory training; (iv) preparation of a strategic plan for the sustainability of Solomon Airlines (i.e., airline strategy review); (v) airport master planning studies for both Honiara and Munda Airports; (vi) preparation of an aviation sector strategy; (vii) technical support to CAASI to improve safety and security oversight; and, (viii) technical support so SIACL for strengthening capabilities for airport management and operation. Finally, the project will finance preparatory activities for future Auki Gwaunaru'u Airport Infrastructure Investments.

By the end of FY2020, Mobilization of international consultants and contractors had been impacted by the travel restrictions associated with the COVID-19 pandemic; however, implementation progress was satisfactory advancement had been made on several activities in all project components. A State of Public Emergency was declared on 25 March 2020 and international flights had been suspended since 28 March 2020 (except for occasional Government-approved

charter and cargo services). Inter-island travel was discouraged by the Government and domestic airline services are reduced. In April 2020, the Minister of Finance and Treasury requested the World Bank Group to help prepare a strategic options report to guide the government on how to manage the impacts of COVID-19 on the Solomon Islands' aviation and tourism sectors in the short and medium term. Terms of reference were developed in consultation with Solomon Airlines, New Zealand Ministry of Foreign Affairs and Trade, MOFT, MCA, and CAASI.



Important aviation activities had progressed, notably: (i) delivery of the final concept design report for the Munda terminal building in August 2019; (ii) identification of options for fire services shelter at Honiara and the survey and investigation of runways at Honiara and Munda under the design and supervision consultancy; (iii) mobilization of consultant for design validation, supply and installation supervision for the very small aperture terminal (VSAT) point to point aeronautical network, and hub management for the VSAT point to point aeronautical network; (iv) clearance of UXO at the majority of sites; (v) Honiara control tower renovation works; (vi) airport master planning studies for both Honiara and Munda Airports in final draft stage; and (vii) signing of the consulting contract for the development of an aviation sector strategy.

Contact person is Dung Anh Hoang at dhong1@worldbank.org and Naoki Kakuta at nkakuta@worldbank.org

TONGA AVIATION INVESTMENT PROJECT (P128939)

Subsequent to an original IDA Grant contribution of USD 27.21 million in 2011, the World Bank approved a USD 7.3 million Additional Finance in 2016. The project closed on 31 December 2019. The PDO were: (i) regulatory certification of safety and security at project airports; (ii) state requirements for safety and security

reaches global ICAO average; (iii) modernization of air traffic management; and (iv) implementation of a regional safety and security levy for departing international passengers. The project comprised four components: (a) Aviation Infrastructure Investments; (b) Aviation Sector Reform and Training; (c) Strengthening Airport Operations and Management Capacity; and (d) Program Support.

Impactful results were achieved under this project thanks to the implementation of the following investment activities: rehabilitating airport runways, taxiways and aprons; (ii) installing new navigation aids, automatic weather monitoring, safety and security equipment at the Fua'amotu and Vava'u airports; (iii) provision of renewable power through the implementation of a photovoltaic panel for on-site power generation at Vava'u airport; (iv) improvements to terminals to reduce electrical consumption through both passive and technological means; (v) provision of airport facilities to collect and store rain water from roof areas to reduce the amount of water needed from the grid and preserve natural water resources; (vi) security improvements such as fencing, access control, installation of a building management system, a flight information display system, closed-circuit television and X-ray equipment for hand baggage; (vii) upgrading of runway lighting, (viii) provision of fire safety equipment, (ix) provision of the Pacific Aviation Safety Network at Vava'u airport, (x) provision of portable refueling equipment for Vava'u airport; (xi) construction of Air Traffic Control Tower at Fua'amotu International Airport; (xii) purchasing and installation of Air Traffic Control equipment for the new control tower at Fua'amotu International Airport (including new technologies to meet safety standards and airport certification requirements); and (xiii) Terminal renovations at the Vava'u International Airport and the construction of a cargo shed at Fua'amotu. The project also financed the provision of the design and supervision consulting services as required to carry out investments.

By project completion, the regional VSAT network was fully operational, and both airports were equipped with ADS-B. The project also financed the installation of ADS-B transmitters in all aircraft on the Tonga domestic registry so as to ensure that they could be effectively monitored. The ADS-B technology has enabled Tonga to essentially bypass radars, providing the country with a more advanced technology at one tenth of the cost. It also facilitates more efficient flight routing, which saves fuel and reduces greenhouse gases, as well as making the network more resilient to natural disasters.

The project financed the provision of technical assis-

tance to Tonga Airports Limited (TAL), the Ministry of Transport (MOT), other line Ministries and the Pacific Aviation Safety Office (PASO), achieving: (i) the strengthening of capabilities for aviation sector management, policy, safety and security oversight; (ii) drafting the legislation needed to improve the long-term status of TAL's operations; (iii) provision of training on aviation policy, management and operations; (iv) the carrying out a baseline audit of the safety and security at Fua'amotu and Vava'u airports and review progress in the implementation of the ICAO Corrective Action Plan by TAL and the Government of Tonga; (v) the carrying out safety and security oversight audits; (vi) the preparation of a business plan for PASO's operations; and (vii) the implementation of restructuring measures arising from PASO's business plan. The project also financed the design of a regional airfield pavement management system. A Fua'amotu Master Plan was prepared, providing TAL with a 20-year master plan as well as a 10-year priority investment plan.

It is worthy to highlight project-financed studies which enabled the implementation of the above mentioned activities: (i) options for regional aviation supply across Pacific Island countries, including future travel demand patterns and the types of aviation services which would be most appropriate for these needs; (ii) long-term sustainability of aviation infrastructure and ways in which financing could realistically be achieved; and (iii) analysis of the Flight Information Region for improving the allocation of revenues.

The project fully achieved all but the second PDO indicator, which was partially met (state requirements for safety and security reaches global ICAO average). This indicator was measured through the ICAO Universal Safety Oversight Audit Program (USOAP), where countries are given an 'Effective Implementation' (EI) score out of 100. USOAP audits focus on a country's capability in providing safety oversight by assessing whether they have effectively and consist-



ently implemented the critical elements of a safety oversight system. The audit usually covers eight areas: (i) legislation; (ii) organization; Licensing; Operations; Airworthiness; Accident Investigation; Air Navigation Services, and; Aerodromes. Of the eight audit areas, Accident Investigation was dropped and three were postponed until 2021 as they relate to the airlines, which in this case is Real Tonga, and the Civil Aviation Division did not feel they were ready. Efforts must continue to meet International Civil Aviation Organization (ICAO)'s requirements to improve the Effective Implementation (EI) score from the ICAO Universal Safety Oversight Audit Programme (USOAP).

Contact persons are Keelye Rinchen Hanmer at khanmer@worldbank.org and Pierre Graftieaux at pgraffieaux@worldbank.org.

TONGA CLIMATE RESILIENT TRANSPORT PROJECT (P161539)

The World Bank Approved USD 26 million IDA Grant for the Tonga Climate Resilient Transport Project in 29 November 2018. The project is in its first year of implementation. The Project Development Objective (PDO) is to improve the climate resilience of the Recipient's transport sector, and, in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency. The achievement of the PDO will be measured through the following key PDO indicators: (i) identified planning tools being used to improve climate resilience; (ii) identified climate resilient investments constructed/rehabilitated and in use in the aviation and maritime sectors; (iii) identified enabling environment solutions implemented; (iv) length of roads constructed

or rehabilitated with climate resilience measures; and (v) climate resilient routine maintenance contracts in place and being implemented.

The project is supporting the aviation sector infrastructure rehabilitation under its second component (Climate Resilient Infrastructure Solutions). Specifically, the project will finance: (i) feasibility studies, design and physical works of identified aviation assets to improve their resilience to climate-related hazards and/or events; (ii) urgent resurfacing of the runway and apron at Salote Pilolevu Airport, Ha'apai, including reconstruction of pavement layers at localized soft spots, subsoil drainage as needed, and full line marking.

As of the end of FY2020, the project had made reasonable progress, although most procurement processes were behind schedule. In January 2020, a cyclone (Tino) impacted the country and the COVID-19 crisis began slightly after. Tonga declared a national state of public health emergency on 20 March 2020. Travel restrictions put in place because of COVID-19 had negatively impacted project implementation pace since ongoing contracts slowed down due to supply chain disruption and the impossibility to travel in-country from one island to another. Tenders ready to be launched might be postponed to maximize participation, bearing in mind that international contractors may be reluctant to bid until the situation improves and travel restrictions are lifted.

The signing of the contract for the Resurfacing of Runway at Salote Pilolevu Airport, Ha'apai had been delayed as the Conditions of Contract needed amending to address COVID-19 restrictions and quarantine requirements. The contract amendment and signing processes were expected to conclude in early FY2021.





Contact person is Pierre Graftieaux at pgraffieaux@worldbank.org and Sean Michaels at smichaels@worldbank.org

TUVALU AVIATION INVESTMENT PROJECT (P128940)

With IDA Grant contributions of USD 11.85 million in FY2012, USD 6.06 million in FY2014 and USD 2.89 million in FY 2016, the project is in the ninth year of implementation. The project development objective is to improve the safety and security of air transport and associated infrastructure. A third additional financing (AF) of USD 8.75 million was approved in FY 2018 to finance: (i) the design and construction of runway repairs and resiliency measures addressing pavement defects on Funafuti runway that have resulted from water pressure under the recently paved runway. This will include pilot testing of a number of alternative remedial options throughout the 2017-18 cyclone season which will inform the final design; (ii) emergency interim maintenance and monitoring regime for pavement defects; (iii) the supervision cost for the runway civil works and construction of the flight services center and fire tender shelter—including through the defect liability period; (iv) ongoing monitoring of the impact of the civil works on the sub-runway water pressures; and, (v) a budget shortfall under the parent project due to foreign exchange fluctuations and higher than anticipated supervision costs.

By the end of FY2020, key project activities had been completed, such as the road civil works, the delivery of the fuel truck and fire tender (in use), and the opening of the new terminal in February 2018. In addition, works on the construction of the flight services center/fire tender and remedial works on the apron were completed. The Government were considering

options for replacing the navigation equipment damaged during a fire incident. Important challenges remained to be addressed, most notably the defects on the runway following completion of the civil works. The bidding process for runway remedial works experienced delays due to unresponsive bids. In March 2020, Tuvalu declared a State of Emergency due to the COVID-19 global pandemic, which further delayed the retendering process. The project closing date was extended from 30 June 2020 to 15 December 2020.

Contact persons are Nana Soetantri at nsoetantri@worldbank.org and sogita@worldbank.org

SAMOA AVIATION INVESTMENT PROJECT (P143408)

A USD 25 million IDA Grant for the Transport Sector Support Project in Tonga was approved in FY2014 as well as an Additional Financing (AF) of USD 16.62 million in FY 2016. The project development objective (PDO) is to improve operational safety and oversight of international air transport and associated infrastructure. The purpose of the latest AF was to scale up apron pavement expansions and fuel hydrant extensions necessary to integrate a new terminal building which is currently under construction.

A second additional financing (AF2) of USD 2.2 million from IDA, including a nine-month extension of the project closing date, was approved by the Bank in May 2019. The AF2 will cover the financing gap and cost overruns and will help ensure that the project meets its PDO. It aimed to build upon the progress achieved to date and complete a number of activities, by supporting the cost increases related to existing contract variations and providing additional funds for on-going and planned activities. The project's

As of the end of the end of FY2020, the project remained on track to meet the PDO and its closing date has been further extended to 31 December 2020, to allow: (i) the training program for Samoa Airport Authority (SAA) and Civil Aviation Division (CAD) staff to be completed; and (ii) the project to procure five new activities. Faleolo International Airport had maintained compliance with all regulatory requirements and certifications are current; air traffic management had been modernized; and the regional safety and security levy was being implemented. Confirmation on the achievement of the indicator "State requirements for safety measured by Universal Safety Oversight Audit Programme (USOAP) reaches global ICAO average" was pending, as it was being assessed by an external independent auditor, with in-



dicative results expected by the end of November 2020.

The project's main activities had been completed, notably the works for the runway, apron and taxiway which were under the Defect Liability Period, and the delivery of two water tanks and passenger facilitation equipment (wheelchairs). The preparation of technical specifications for a Doppler Very High Frequency Omni Range (D-VOR) and an Instrument Landing System (ILS) were completed, enabling the procurement of equipment as soon as financing is available.

The training program could not be fully implemented, because of travel restrictions instated by the Government of Samoa since 24 January 2020 due to the Covid-19 outbreak. Only on-line trainings were being carried out, and SAA was planning to use the remaining training funds to procure equipment that would improve SAA's compliance with IACO's safety and security standards at Faleolo airport, as well as to maintain its Information Technology equipment. With regards to the five procurement activities, all related to the supply of goods/ equipment, three contracts (for the acquisition of electronics/ IT equipment, safety gear, and training resources) had been signed.

Contact person is Noroarisoa Rabefaniraka at nrabefaniraka@worldbank.org

VANUATU AVIATION INVESTMENT PROJECT (P154149)

A USD 5.44 million IDA Credit for the Vanuatu Aviation Investment Project (VAIP) was approved by the Bank in FY2015 as well as an Additional Financing of USD14.1 million in FY2017, and it closed on 31 De-

cember 2019. The Project Development Objective (PDO) was to improve operational safety and oversight of international air transport and associated infrastructure in Vanuatu. The PDO was measured through four indicators: (a) Regulatory certification of safety and security at Bauerfield International Airport; (b) State requirements for safety measured by Universal Safety Oversight Audit Program (USOAP) reaches International Civil Aviation Organization (ICAO) average; (c) modernization of air traffic management through installation of key equipment; and (d) implementation of a regional safety and security levy for departing international passengers.

The project profoundly transformed the aerodrome infrastructure at three targeted airports, Particularly at Bauerfield, the rehabilitation and upgrade of the runway and other key infrastructure not only successfully restored the original operational capacity of the airport, but also set it for future-proof expansions to accommodate larger aircrafts. At the end of the project, Bauerfield was successfully re-certified by CAAV, indicating its compliance to the safety and security standards required by Vanuatu Civil Aviation Rules and ICAO. Achievements in this airport include, among others: (i) rehabilitation of entire runway; (ii) upgrading of apron, runway and taxiway, which enabled Bauerfield's capability to receive limited Code E aircrafts, with apron now able to accommodate three Code C aircrafts and two turboprops, with options to park one Code E aircraft and a general aviation aircraft; (iii) installation of new Airfield Ground Lighting (AGL) system and control system to provide safer visual aids to aircraft operations; (iv) upgrading of Aircraft Rescue and Fire Fighting (ARFF) Standards to Category 8; (v) construction of a new fire tender shelter was constructed, which can accommodate up to four fire tender vehicles (FTVs); and (vi) provision of training to the airport's fire crew.

Contact person is *Dung Anh Hoang* at dhoang1@worldbank.org

PACIFIC ISLANDS PACIFIC AVIATION SAFETY OFFICE REFORM PROJECT (P145057)

A USD 2.15 million IDA Grant for the Pacific Aviation Safety Office Reform (PASO) was approved by the Bank in FY 014 as well as an Additional Financing (AF) of USD 0.95 million in FY 2017 and a second AF (AF2) of USD 3.55 million in FY 2018, with an extended closing date of December 2021. The project development objective (PDO) is to strengthen the coordination capacity of the Pacific Aviation Safety Office to deliver regional aviation safety and security oversight, and technical and advisory services to the Pacific Island Countries.

The objective of the AF2 for the PASO Project is to strengthen the coordination capacity of the Pacific Aviation Safety Office to deliver regional aviation safety and security oversight, and technical and advisory services to the Pacific Island Countries. The original project design was completed in 2013 within a six-month preparation horizon. Upon recognition that PASO's short-term cash flow forecast and forthcoming liabilities projecting an impending insolvency, Member States requested IDA support to an agreed reform agenda. Appraisal estimates for the recommended activity interventions defined in the 2013 Business Plan were not sufficiently robust. There was also a fiduciary risk associated with the PASO's ongoing fiscal performance issues. For this reason, the original project size was limited to approximately USD 2.15 million equivalent. During implementation, it became clear that funding resources were not sufficient to meet the project's investment expectations related to capacity development for the inspectorate pool, as well as the envisaged IT business transformation.

The AF2 will allow PASO to progress towards the successful completion of the reform activities, thereby ensuring the continued effective and efficient delivery of safety and security oversight functions to its Pacific State members. The most important outcome of the AF, along with its three-year closing date extension will be ensuring that PASO is increasingly more financially viable. Specifically, the AF2 will finance the implementation of a new funding modality, Capacity Development for the Regional Inspectorate Program, Quality Management Systems, Regional Aviation Infrastructure.

By the end of FY2020, most of the project activities have been progressing well, but all planned training activities had been put on hold due to travel restrictions, as a consequence of Covid-19 pandemic. Apart from PASO staff, PASO council members, and Civil Aviation Authority staff training, the Pacific Inspector Development Program (PIDP) was also suspended. As a result, the regional pool of inspectors program could not be carried out as scheduled. Likewise, key planned meetings, such as the Regional Aviation Ministers Meeting (RAMM), had to be cancelled.

Contact person is *Noroarisoa Rabefaniraka* at nrabefaniraka@worldbank.org and *Dung Anh Hoang* at dhoang1@worldbank.org



EUROPE & CENTRAL ASIA

Project Highlights



KYRGYZ REPUBLIC CENTRAL ASIA REGIONAL LINKS PROGRAM - PHASE 3 (P159220)

In October 2018, the World Bank approved a USD 27.50 million IDA Grant and a USD 27.50 million Credit (totaling USD55 million IDA) for the Central Asia Regional Links Program - Phase 3 (CARs-3). The Project Development Objective (PDO) is to increase regional connectivity and support sustainable tourism development in Issyk-Kul Oblast. The achievement of the PDO will be measured through the following key PDO indicators: (i) number of vehicles passing through Kyrgyz-Kazakh Karkyra border crossing point; (ii) compliance with aviation safety standards measured by Universal Safety Oversight Audit Program reaching global ICAO average; and (iv) satisfaction with sustainable tourism development.

The Project is supporting the strengthening of the aviation sector's safety and service provision under its second component. Addressing aviation safety and service provision would help the Civil Aviation Agency (CAA) to reach ICAO's international safety standards and recommended practices, as well as to overcome the current blacklist of Kyrgyz carriers by the EU, enhance local carriers' growth opportunities and ultimately increase the country's level of connectivity, a result that would benefit both local residents and international visitors. Activities financed under this component include, inter alia: (i) review of the Aviation State Safety Program to identify CAA's institutional and capacity challenges for compliance with ICAO standards and recommended practices; (ii) provision

of technical assistance in drafting aviation bylaws; (iii) training safety inspectors and other staff of CAA with the aim to solve key deficiencies flagged in the last USOAP Audit that contributed to the issuance of a Significant Safety Concern (SSC) by ICAO and ultimately to EU's blacklisting of Kyrgyz carriers; (iii) provision of software and equipment to upgrade CAA's record-keeping capabilities; and (iv) review of the educational program of the Kyrgyz Aviation Institute (KAI), capacity building, and acquisition of testing software for aviation personnel and a flight training device, and repair of the Aviation Institute's Facilities. As of the end of FY2019, the project had not reached effectiveness yet.

By the end of FY2020, the project's financing agreement had been signed on 3 July 2019, with project becoming effective on 30 January 2020. A project launch workshop was organized in Bishkek on 3 and 4 Mar 2020, where all relevant stakeholders in the government of Kyrgyz Republic participated for an overview of the approved project design, the status of implementation, and actions needed to expedite various activities. Due to the COVID-19 pandemic, a state of emergency was declared in Kyrgyz Republic on 25 March 2020. This impacted project progress as everyone was forced to work remotely with connectivity and coordination challenges. Despite challenges, the Ministry of Transport and Roads (MOTR) and project implementation unit continued to remain on-the-job and actively engaged with the Bank team.

Contact person is Muhammad Zulfiqar Ahmed at zulfiqar@worldbank.org



LATIN AMERICA & CARIBBEAN

Project Highlights



BOLIVIA NATIONAL ROADS AND AIRPORT INFRASTRUCTURE PROJECT (P122007)

A USD 109.5 million IDA Credit for the Bolivia National Roads & Airport Infrastructure Project was approved by the Bank in FY2011. The project closing date has been extended to August 2022. The Project Development Objective (PDO) is to improve the year-round circulation along the San Buenaventura-Ixiamas national road and improve the safety, security and operational reliability of the Rurrenabaque Airport. In terms of aviation activities, the project is supporting the construction of a new taxiway, apron, control tower, operations building, rescue and firefighting buildings, an access road, a passenger terminal, and the acquisition and installation of aviation control, rescue and firefighting equipment.

The Project has had a long history characterized by its ups and downs. However, events in FY2018 signified an inflection point with a turnaround in performance. For instance, the contracting of both civil construction works and supervision services for the Rurrenabaque Airport improvements had been completed.

As of the end of FY2020, works at Rurrenabaque airport were progressing well until the Government of Bolivia (GoB) issued a decree promulgating a state of health emergency and a national quarantine effective from 17 March 2020, due to the COVID-19 pandemic. Quarantine measures were reinforced by successive decrees on 21 March 25 March, and 1st April 2021. These provisions mandated the strict confinement of the entire population.

On 10 May 2020, restrictions on economic activities related to civil works construction were lifted under

specific health and safety regulations. Most employees in public institutions continued to be assigned to home-based work, including the staff of the implementing agencies. However, in practice, remote working conditions were not very efficient due to a lack of preparation for this modality in the client institutions. All activities pertaining to the civil works under the airport component had been suspended. The construction and works supervision staff had been demobilized until works can restart. No case of infection among the client or contractors had been reported at the time. All procurement processes had been put on hold during the quarantine period.

Contact person are Felipe Targa Rodriguez at ftarga@worldbank.org, Tatsuo Harada at tharada1@worldbank.org and Fabian Hinojosa Couleau at fhinojosa@worldbank.org

EASTERN CARIBBEAN SUB-REGION NATIONAL DISASTER VULNERABILITY REDUCTION APL1 - GRENADA AND ST. VINCENT AND THE GRENADINES (P117871)

The Regional Disaster Vulnerability Reduction Program (RDVRP) aims at measurably reducing vulnerability to natural hazards and climate change impacts in the Eastern Caribbean Sub-region. The objective of the Project in Grenada is to measurably reduce vulnerability to natural hazards and climate change impacts in Grenada and in the Eastern Caribbean Sub-region. The objective of the Project in Saint Vincent and the Grenadines is to measurably reduce vulnerability to natural hazards and climate change impacts in Saint Vincent and the Grenadines and in the Eastern Caribbean Sub-region. For these two particular projects, the Bank has approved a USD



20.9 million IDA Credit in FY2017. The achievement of the Program Development Objectives (PDO) of the RDVRP would be measured using the following key indicators: (a) Reduced risk of OECS population to failure of public buildings and infrastructure due to natural hazards or climate change impacts; and (b) Increased capacity of OECS Governments to identify and monitor climate risk and impacts. The Project has been extended to December 2020 to allow for full achievement of its project development objectives (PDO).

Grenada is taking the lead on piloting integrated approaches to urban flood mitigation. Furthermore, for Grenada the program has envisioned to support necessary investments at its international airport to ensure continued operations in accordance with international aviation regulations. The airport functions as an important regional infrastructure site in the region's emergency response capacity. In the event of disaster, Grenada's Maurice Bishop International Airport (MBIA) is the gateway to provide emergency relief locally as well as regionally. MBIA is the alternate airport for Trinidad and Tobago, Barbados, and St. Vincent and the Grenadines. The continued operation of the airport is therefore critical to the region as well as to Grenada. The airport authority has identified critical investments that are required both to maintain an adequate emergency response capability and to comply with operational standards as required by the International Civil Aviation Organization (ICAO).

Under component 2 (Regional Platforms for Hazard and Risk Evaluation, and Applications for Improved Decision Making), the project is supporting the reduction of risk for regional interconnectivity and carrying out related supporting studies, including improving the international airport to maintain an adequate emergency response capability and to comply with the international operational standards, through the provision of works, technical advisory services, training, and acquisition of goods.

On 30 March 2020, the Government of Grenada (GoG) placed curfew for the Grenadians to be confined to their homes except for essential activities stop the spread of COVID-19. After a two-month lockdown, the GoG established a task force focused on re-building the national economy and started easing some of the restrictions. On 11 May 2020, GoG opened the construction sector, placing restrictions to consider COVID-19 measures. Due to the impact of the coronavirus, there have been delays in project implementation. By the end of FY 2020, the project in Grenada had largely met its development objectives with full achievement of most of the PDO-level

and intermediate results objectives. Most activities under Component 2 had been completed. Activities pending completion involve training on spatial data management, LiDAR/Aerial Imager/Point Cloud software, GIS software and watershed modelling. It is worth highlighting that the installation of Hydromet stations was 90 percent completed with some small equipment outstanding due to delays in delivery caused by COVID-19. The first training session was provided in February 2020.

Contact person is Keren Carla Charles at kcharles1@worldbank.org

HAITI CARIBBEAN REGIONAL AIR TRANSPORT CONNECTIVITY PROJECT (P170907)

On 28 May 2020, The World Bank approved A USD 84 million IDA Grant for the Haiti Caribbean Regional Air Transport Connectivity Project. The objectives of the Project (PDO) are to: (i) improve operational safety and navigation efficiency of air transport in the Recipient's territory; and (ii) increase the climate and disaster resilience of associated infrastructure at the Recipient's international airports.

The Project includes four components. The first component (PAP and CAP operational safety and navigation efficiency investments) will finance infrastructure and equipment at Haiti's two international airports—PAP and CAP—aimed at improving aircraft operating conditions in compliance with international safety standards as per the requirements of the ICAO SARPs and OFNAC and improving navigation/taxiing efficiency to better accommodate existing air traffic volumes and air traffic surges associated with post-disaster relief





flights. Interventions will integrate climate/disaster resilience measures. This component will finance inter alia: (i) Civil works (including PAP taxiway and apron expansion, CAP runway rehabilitation and airfield ground lighting installation, PAP RESAs construction, and (d) CAP ATCT replacement; (ii) Purchase and installation of equipment to upgrade and modernize air traffic monitoring and control capacity in compliance with international standards and requirements and with the regional air navigation plans; and (iii) Consulting and non-consulting services for corresponding supervision activities, associated technical studies as needed, including for relevant social and environmental safeguards instruments.

The second component (PAP and CAP airfield drainage system improvements) will finance investments that seek to reduce the risk of airfield flooding associated with the annual rainy season, hurricanes, and climate change at PAP and CAP by increasing the drainage capacity at both airfields and thus improving their climate/disaster resilience. This component would finance inter alia: (i) Civil works, including PAP and CAP airfield drainage system and flood management improvements. Investments would be located within the perimeter of each airport. At PAP, culverts would be integrated in the design of the proposed taxiway; and (ii) Consulting and non-consulting services for corresponding supervision activities, associated technical studies as needed, including for relevant social and environmental safeguards instruments.

The third component will support institutional strengthening and informing the development of a Gender Action Plan (GAP) to promote women's employment in medium level jobs in the sector ; and (iv)

capacity for adapting to a COVID-19 environment, including trainings for best COVID-informed construction site practices and overall worksite safety management both at the ministerial level and for Haitian construction contractors. The fourth component consists on Contingent Emergency Response.

As of the end of FY2020, the project's Financing Agreement had been signed on 29 June 2020.

Contact person is Malaika Becoulet at mbecoulet@worldbank.org

SAINT LUCIA CARIBBEAN REGIONAL AIR TRANSPORT CONNECTIVITY PROJECT (P170860)

On 28 May 2020, The World Bank approved A USD 45 million IDA Credit for the Saint Lucia Caribbean Regional Air Transport Connectivity Project. The Project Development Objectives (PDO) are to (i) improve operational safety and navigation efficiency of air transport and (ii) enhance resilience of Saint Lucia's airport infrastructure to natural disasters. Progress toward achievement of the PDOs would be measured through PDO 1 (Improve operational safety and navigation efficiency of air transport): (a) UVF runway in compliance with additional ICAO standards/requirements (number); (b) Modernization of air navigation systems and oversight (number); (c) Regional change in airspace area covered by globally standardized air traffic monitoring system (percentage); (d) Regional capacity building program on air traffic control and management prepared and endorsed (yes/no). PDO 2 (Enhance resilience of Saint Lucia's airport infrastructure to natural disasters) will be measured through the Change in discharge capacity of the

runway drainage system at UVF (percentage).

The project comprises 5 components: (i) Component 1 (Improvement of UVF Runway Safety and Resilience), which will improve the operational safety and flood disaster resilience of the runway at UVF, the most critical piece of aviation infrastructure, and it will support Saint Lucia to comply with ICAO's SARPs; (ii) Component 2 (Modernization of Air Navigation Systems), which will improve air traffic safety and efficiency as well as strengthen resilience for air traffic navigation during bad weather through the modernization of air navigation systems; (iii) Component 3 (Institutional Strengthening) that aims to strengthen the institutional capacity of the Government of Saint Lucia in managing, developing, operating, and overseeing their airports and air transport operations through a combination of regional and Saint Lucia's specific technical assistance activities; (iv) Component 4 (Project Management), which will finance hiring of technical specialists for a dedicated Project Implementation Unit (PIU); and (v) Component 5 (Contingent Emergency Response) that will provide immediate response to an eligible crisis or emergency, as needed.

Contact persons are *Malaika Becoulet* at mbecoulet@worldbank.org and *Kavita Sethi* at ksethi@worldbank.org

SINT MAARTEN SINT MAARTEN AIRPORT TERMINAL RE- CONSTRUCTION PROJECT (P167974)

On 18 September 2019, The World Bank approved A USD 72 million IDA Grant for the Sint Maarten Airport Terminal Reconstruction Project. The Project Development Objective is to restore the passenger capacity of Princess Juliana International Airport to pre-Hurricane Irma levels with improved resilience towards hurricanes.

The project will contribute to the reconstruction program of the Princess Juliana International Airport (PJIA) through restoring the passenger terminal function. PJIA's reconstruction program aims at restoring the airport function with improved resilience to the future hurricanes and safety of the airport. The program includes the reconstruction of the passenger terminal as well as other key airport facilities such as air traffic tower, firefighter facilities, fuel farm relocation, runway rehabilitation. As requested by the Government of Sint Marteen (GoSM), the project will focus on the terminal reconstruction, which is the most critical and the biggest work to recover the passenger capacity of the PJIA. The project will reconstruct the terminal facilities damaged by hurricanes while keeping the existing building structure. The project is a USD 129 million operation financed by a USD 72 million World Bank managed Trust Fund Grant (TF), USD 50 million European Investment Bank (EIB) loan, and USD 7 million of counterpart funds.

The project comprises four components: (i) Component 1 (Reconstruction of the PJIA terminal facilities), which will support the reconstruction of the PJIA terminal facilities to restore airport function and to improve its resilience to hurricanes, through terminal facility restoration and equipment reinstallation (passenger boarding bridges, entrance doors, dry walls, furniture/counters, electrical and IT systems, baggage handling system, security installations and firefighter facilities); (ii) Component 2 (Capacity Building of and Project Management by PJIAE); (iii) Component 3 (Capacity Building of and Project Management by the Government of Sint Maarten); (iv) Component 4 (Support of PJIAE Operations), which will support the operations of PJIAE through the financing of Select PJIAE Operating Expenditures so that PJIAE can continue PJIA's operations without interruption during the reconstruction period.

By the end of FY2020, the project had become effective on 7 April 2020. Due to the COVID-19 restrictions the bidding process for mold remediation activities was delayed but resumed in June 2020 with works expected to start in December 2020. The COVID-19 pandemic could influence further this timeline and the procurement process of the main reconstruction work (Package 2) whose tender was expected to initiate in August 2020. Worsened airport financial situation due to the crisis will likely require support from Component 4.

Contact person is *Shruti Vijayakumar* at svijayakumar@worldbank.org

DOMINICA CARIBBEAN REGIONAL AIR TRANSPORT CONNECTIVITY PROJECT (P171224)

On 28 May 2020, The World Bank approved A USD 13 million IDA Credit for the Dominica Caribbean Regional Air Transport Connectivity Project. The Project Development Objectives are to: (i) improve operational safety and resilience readiness to natural disasters of air transportation; and (ii) strengthen the capacity of key agencies in air transportation operations and airport investment planning in Dominica.

The project comprises four components: (i) Component 1 (DOM and DCF Safety and Resilience Improvements), which will support enhancing the safety and resilience of Dominica's two existing airports and Dominica's efforts to comply with ICAO SARPs and abide by the POS Declaration; (ii) Component 2 (Technical Assistance and Institutional strengthening); (iii) Component 3 (Project Management); and Component 4 (Contingent Emergency Response).

*This project was cancelled per Government's request in November 2020.



SOUTH ASIA

Project Highlights



BHUTAN HYDROMET SERVICES & DISASTER RESILIENCE REGIONAL (P154477)

In FY2017, The Bank approved a USD 3.8 million IDA Grant to The Royal Government of Bhutan for a Hydro-Meteorological (Hydromet) Services and Disaster Improvement Regional Project. The project development objective (PDO) is to strengthen Bhutan's capacity for hydromet services and disaster preparedness.

The project includes an Aviation Meteorology enhancement sub-component, which is funding targeted aviation meteorology equipment, hardware and software to enhance aviation safety at Paro International Airport (PIA) and Bumthang Domestic Airport. As a land locked country, air transport is the only mode of transportation for Bhutan to connect to other countries except for India which is connected by road. Aviation is also the key to promoting tourism which is the second driver of economic growth after hydropower for Bhutan. However, PIA—the only international airport in Bhutan is identified as one of the top ten dangerous airports for aircraft landings in the world. Nestled in the Himalayan Mountains, it has a runway elevation of 2.2 Km above sea level, surrounded by peaks as high as 5.5 Km. The unforgiving terrain and weather is so severe that flights are al-



lowed only under Visual Flight Rules (VFR), and are restricted to daylight hours.

There are only a small number of pilots (about 25) qualified to land at PIA. The airport is currently equipped with an Automated Weather Observing System (AWOS), which provides conditions along the runway of wind speed, direction, runway visibility, temperature and relative humidity. However, this system is aging being 14 years old and needs to be urgently replaced. The airport also needs urgent improvements in monitoring variability of wind speed (a key indicator for turbulence) and visibility when approaching or departing the airport. This sub-component is supporting: (i) the procurement of one wind profiler system and a ceilometer for Paro International Airport and one ceilometer for Bumthang Domestic Airport; and (ii) the procurement of an AWOS at Paro airport.

By the end of FY2020, project progress had been satisfactory across components having completed important activities. Pertaining to aviation, the following activities had been completed: (i) enhancement of weather forecasting through the operationalization of the SMART-Met system, which is a common operating platform for weather forecasting and dissemination of weather information, resulting in qualitative improvement in the accuracy of weather forecast and in a two-hour reduction of daily weather forecasts preparation time from an average of four hours; and (ii) strengthening of aviation meteorology through the installation and operationalization of an automatic weather observation system (AWOS), a ceilometer and a wind profiler at the Paro International Airport and a ceilometer at Bumthang domestic airport. The wind profiler provides wind shear data within the range of the wind profiler, giving the pilots more time to make decisions. The ceilometers provide better accuracy of cloud heights within the range of the ceilometer. Overall, these have helped improve the safety of flight operations.

Contact person is Arati Belle at abelle@worldbank.org

PAKISTAN HYDROMET & DRM SERVICES PROJECT (P163924)

In May 2018, The Bank approved a USD 188 million IDA Grant to the Government of Pakistan for Hydro-Meteorological and Disaster Risk Management Services (DRM) Project (PHDSP), whose development objective (PDO) is to strengthen Pakistan's public sector delivery of reliable and timely hydro-

meteorological and disaster risk management services. The project has three main components. The first component (Hydro-meteorological and Climate Services) includes four sub-components: (i) Institutional Strengthening and Capacity Building; (ii) Modernization of the Observation Infrastructure, Data Management, and Forecasting Systems; (iii) Enhancing Pakistan Meteorological Department (PMD) Service Delivery and Building Partnerships with the Private Sector; and (iv) Project Management, Systems Integration, and Monitoring and Implementation Support of PMD. The second component, DRM, consists of three sub-components: (i) Legal Policy and Institutional Strengthening; (ii) Infrastructure for Resilience; and (iii) Project Management, Monitoring, and Implementation Support of National Disaster Management Authority (NDMA). The third component (Contingent Emergency Response Component (CERC)) will support preparedness for a rapid response to climate and natural disasters, emergency, and/or catastrophic event as needed.

mentation could not move ahead. The restructuring responds to the Government's new and ambitious priorities on ecosystems restoration, climate resilience, and to enhance community resilience to pandemic shocks and address socio-economic disruptions caused by COVID-19 pandemic. Since the signing, a number of upstream actions are underway or have been completed, albeit at a slow pace due to the COVID-19 restrictions. Activities to strengthen services for the aviation sector will be supported under Sub-component 1.2 (Modernization of the Observation Infrastructure, Data Management, Forecasting Systems and Services).

Contact person are *Ahsan Tehsin* at atehsin@worldbank.org and *Takeaki Sato* at tsato@worldbank.org



By the end of FY 2020, a major restructuring of the project was completed, and the project was signed and declared effective in May 2020, after almost two years of Board approval (2018) during which imple-

IBRD/IDA: AIR TRANSPORT ADVISORY



HAITI

In July 2019, a WB air transport team visited Haiti to participate in the preparation mission for the Haiti Caribbean Regional Air Transport Connectivity Program to review the scope of project components, as well as institutional arrangements for preparation and implementation.

The mission visited the airside of Toussaint Louverture International Airport (PAP) to review the proposed infrastructure investment needs. It was concluded that the construction of a taxiway South of runway 10 was indeed warranted, as it would relieve congestion of landing and departing aircraft and as there was enough space for the construction. Nevertheless, this did not include the area of the UN tarmac and hangars, as a taxiway at that location would entail major works of relocation these facilities. The mission therefore concluded that the taxiway would only have about 85% of the length of the runway, not including the part in front of the UN hangars. The construction of the proposed taxiway may entail the relocation of the current VOR at PAP. This will need to be confirmed by a study.

The mission discussed and reviewed the current drainage infrastructure at PAP. It noted that the open drainage canals North of the runway have piled garbage along the trenches, which attracts wildlife, especially birds. This has become a serious hazard for aviation, as several carriers (Delta, American, Sunrise) experienced bird strikes in recent days. Nevertheless, the proposed project will primarily focus on the drainage canals on the South of the runway, as these most likely will need to be covered when the taxiway is built. Finally, the project also confirmed that the runway-end-safety-areas (RESA) are feasible and needed to be created at both ends of the runway.

The mission travelled to Cap-Haitien and inspected Cap-Haitien International Airport (CAP). The mission confirmed the necessity to construct a new air traffic control tower, as the current one was temporary, and did not allow visibility on both runway ends. Furthermore, the mission noted that the current runway seemed to have further deteriorated since its last mission in April. It was concluded that a rehabilitation of the runway was most likely warranted. It was recommended to study and examine the runway by a qualified engineering firm to determine how to best rehabilitate it.

The mission also reviewed and discussed the drainage situation at CAP, as the airport gets regularly flooded during intense rain. However, while a river passes through the airport premises, the main drainage issues are created outside the airport perimeter. It is therefore recommended to study and develop a drainage plan for the neighborhood around the airport, which might even include the deviation of the river that currently crosses the airport premises. The drainage issues will therefore be addressed by another World Bank project.

The mission noted that the VOR was still not operational, as it remained connected to a generator, which seemed not working. Furthermore, the mission also learned that CAP did not allow night operations, even though lighting was installed. This has hampered in the past medical evacuation flights that needed to be done at night. The reason for not allowing night operations at CAP was the fact that the Office National de l'Aviation Civile (OFNAC) did not yet certify the lighting system, which was installed several years ago.

In terms of addressing the needed improvement of aviation safety, the mission discussed with OFNAC their needs for improving regulatory oversight. Haiti, according to ICAO's last Universal Safety Oversight Audit Programme (USOAP), has only reached a compliance level of 15%, while the world average is 60%. OFNAC is working to improve this rating, as ICAO has

planned the next USOPA for November 2019. The mission acknowledges that there are needs for capacity building at OFNAC to improve oversight of the sector and air traffic control (ATC) services. Furthermore, the mission took notice of needed equipment of ATC, such as Automatic Dependent Surveillance-Broadcast Out (ADS-B).

SAINT LUCIA AND DOMINICA

In September 2019, a WB air transport team visited Saint Lucia and Dominica to participate in the preparation mission for both Saint Lucia and Dominica Caribbean Regional Air Transport Connectivity Programs.

Saint Lucia: The following technical components were identified and assessed:

Component 1 - UVF Runway and Crash Fire Rescue (CFR) Improvements. The following works would be included: (i) UVF runway upgrade; (ii) Runway End Safety Areas (RESA) for both UVF runway ends; (iii) Resilience enhancement for the UVF runway; (iv) Firefighters control room renovation for UVF.

Component 2 - Navigational Aid Improvements. This component seeks to improve air traffic safety and efficiency through the modernization of air navigation systems. It would include: (i) Installation of an Instrument Landing System (ILS) for UFV Runway 10; (ii)



Introduction of Automatic Dependent Surveillance - Broadcast (ADS-B); (iii) Update of UFW Aeronautical Charts.

Component 3 - Institutional Strengthening & Project Management: (i) Training of ATC staff; (ii) ATC-related technical studies; (iii) Institutional Strengthening – SLASPA and Department of Civil Aviation; (vi) Project Management to finance the overall management, supervision, fiduciary control and monitoring and evaluation (M&E) of the Project.

Dominica: The focus of the discussion was in the sub-component that included the proposed Instrument Landing System (ILS) at Douglas-Charles (DOM) airport. The main issue was the question if a suitable missed-approach procedure would be possible, given the high obstacles at the opposite end of the runway. The WB team made the case that an ILS provided a stabilized approach, which is key for safety, but minima may indeed be much higher. It was decided to do a small study and survey to answer this question for appraisal. The other components were briefly discussed, but no major issues arose.

The technical component of the project will include: Subcomponent 1.1 - DOM Investment Program. This subcomponent will seek to improve the operational safety and overall resilience of DOM given it will likely operate for at least another 5 to 10 years, if not longer, depending upon the final schedule for the planned new airport. Investments would include: (i) Installation of an Instrument Landing System (ILS) for DOM which would provide a precision instrument approach for aircraft landing on Runway 27; (ii) Installation of Automatic Dependent Surveillance - Broadcast (ADS-B) by installing one or more receiver antennas and equipping the DOM control tower with a monitor and training air traffic controllers; (iii) Technical studies to support ILS and ADS-B deployment; (iv) Repairs and modernization of Crash, Fire, and Rescue (CFR) equipment at DOM.

GUATEMALA, NICARAGUA AND HONDURAS

In September 2019, a WB air transport team in cooperation with GCSGO (Global and Security Information), visited Guatemala, Nicaragua, and Honduras. The objective was to review, assess, and certify local operators for regular flights by WBG staff in the region to be a “no objection, cat. 3a” operator in the WBG Airline Advisory System (AAS). These operators would also be pre-cleared for charter operators as the reclassification to category 3a represents a favorable “Advanced Operator Assessment” for charter operators. An Advanced Operator Assessment removes the necessity of requesting an individual Flight Safety Assessment for chartering these operators.

In terms of methodology, the WB air transport team visited the following operators and met with corporate and

operational management:

- Guatemala: TAG Aviacion
- Nicaragua: La Costena
- Honduras: CM Airlines, Aerolinas Sosa, Aerolinea Lanhsa, Aerocaribe de Honduras, Fly VIP Honduras



Using a detailed Audit and Inspection Checklist for Part 121 Operators (scheduled air services), the discussed and reviewed: (i) corporate history and organization/management, (ii) current fleet and crew, (iii) passenger development and market outlook, (iv) Safety and Quality Management Systems, (v) Audits, (vi) flight operations and training, (vii) aircraft maintenance and documentation, (viii) incident and accident history, (ix) insurance, and (x) Findings and Conclusions.

JORDAN

In November 2019, a WB air transport team visited Amman, Jordan for an Iraqi Baghdad Airports Scoping Mission, to discuss priorities and a possible way forward in the air transport sector of Iraq.

The mission discussed the main characteristics of the air transport sector in Iraq, which consists of a very strong domestic market of over 80% traffic, while the international traffic only accounts for 20% in terms of passengers. Furthermore, the traffic is concentrated on only two major airports, Baghdad and Najaf, while the country has six international airports, and two under construction and another two in planning. As such, the development of both, domestic and international air services, is an important development objective in Iraq.

In terms of the main airport infrastructure, Baghdad International Airport (BIA), the rehabilitation of the airside (runways, taxiways, and tarmac), and the enhancement and replacement of the terminal buildings were confirmed priorities. However, given the fact that the third section of the main terminal, which was built in the 1980ies, is currently rehabilitated and taken into service, and given the BIA is still operating at about 50 percent of its designed capacity, the current priorities in terms of infrastructure improvement are on the airside, rather than on the landside. Concerning the landside, the mission estimates that the rehabilitation of both runways, taxiways, and tarmac, including improvements of

lighting, and drainage systems, may cost USD 100 million.

The mission also discussed, in the presence of IFC, the possibility of mobilizing private funding for BIA. It was concluded that BIA represented an interesting opportunity to attract private funding. However, given the high funding needs on the airport, compared to the still relatively low level of international passengers and low passenger fees, financing of both the airside investments and the landside development (new terminal) might only be possible with a substantial increase of passengers and airport income. The mission therefore concluded that support for the development of air transport infrastructure at Baghdad airport may include a combined approach of public and private financing (PPP).

The mission discussed two additional important players of the air transport system: the national airline Iraqi Airways and the role of cargo operations at BIA. In terms of Iraqi Airways, the mission recorded that the carrier continued to expand its network of destinations and was expanding its current fleet by the acquisition of new aircraft. Many new aircraft are financed by loans of the National Bank of Iraq, and it is not clear if the carrier generates enough funds to maintain a cashflow positive cashflow. However, the mission learned that the national carrier apparently has large areas towards the airport and ANSP, which is concerning in view of attracting private investments in future PPP schemes. Air cargo is also growing at BIA, but still on a low basis and located at a 40-year old facility at BIA. Given the importance of air cargo for trade and economic importance, the mission suggests including air cargo in the development priorities for BIA.

Further institutional and financial development issues of the sector were discussed. The mission welcomed the recent separation of the Air Navigation Service Provider (ANSP) unit of the ICAA to become an independent entity. The mission reminded that the income of the ANSP, estimated in 2018 to be US\$35 million, needed to be allocated to the aviation sector and should not be seen as general income of the state in order to comply with the principles of the Chicago Convention. The ICAA, which oversees regulatory oversight, and still operates most airports in Iraq, will soon be audited by the International Civil Aviation Organization (ICAO). This audit will reveal the compliance level of the IACC with international standards (ICAO SARP) and list deficiencies that needed to be addressed. The mission highlighted the importance to address these issues soon after the audit, given that a low compliance rate will hamper the development of air services of the country. Finally, the ICAA should also be separated from operating the airport network, which should be done by an airport authority or airport state-owned-entity. This would entail the enactment of a well defined financial concept for the sector, where the ICAA would be allocated an annual budget to be able to operate as an independent regulator.

The mission concluded with the Iraqi delegation that a White Paper should be prepared, which should outline the current issues of the Iraqi Air Transport sector, define a vision for the way forward, and list the necessary steps for implementation. Such a White Paper, which would build on the 2014 Master Plan, and incorporate insights gained in recent missions, would serve as a comprehensive tool for decision makers in Iraq to agree for the way forward on implementation.



DEMOCRATIC REPUBLIC OF CONGO (DRC)

In November 2019, a WB air transport team visited DRC to support WB implementation support mission for Goma Airport Project (PASAG) and Identification mission for the Eastern Congo Connectivity Project (PACT). The mission met with the Civil Aviation Authority (AAC) of the DRC and discussed progress made in building oversight capacity. The has made great progress in its Effective Implementation (EI) of ICAO oversight standards, which started at an EI 26.1% and reached currently an EI 49.31% (see below, note that world average is 60%). This was reached with ICAO support, which was financed by the WB Multi-modal Transport Project, which closed in 2018.

The AAC continued with its own funds and financed ICAO sponsored advisors and instructors, which provide capacity building (note that the AAC is financed nearly 100% by fees and taxes from its oversight activities, which put a heavy burden on operators – in developed countries this ratio is no more than 20%). AAC was preparing for the 2020 ICAO audit (UOSAP), which would reveal its official EI score. In terms of the

PASAG, the AAC needs to focus on the certification process of Goma airport. The mission discussed the importance of this work and suggested that the PASAG engaged a specialized consultant to commence with the AAC the certification process of Goma airport.

The mission visited the construction site of Goma Airport and noted the very positive progress on the tarmac, runway and security wall works. Works within the agreed timeframe was very likely. The mission is concerned that the equipage of the control tower with all the necessary infrastructure (VHF & HF communication, ADS-B & V-SAT, and flight plan management systems) needed to be adequately supervised.

The mission strongly recommended: (i) immediately starting certification and operationalization process for the GOMA Airport as it would take some time (analysis of differences to ICAO SARP, development of Safety Measures, and filing of differences); (ii) developing a second instrument approach for runway 35 and new instrument approaches for runway 17 (North to South); and (iii) developing GNSS based approaches, which are the least expensive and require little maintenance. The volcano at the North of the field, which might rep-



GRENADA

resent a major obstacle, could be countered with evaluating an offset non-precision instrument approach (VOR and/or GNSS). The mission strongly recommended to include these instruments in an additional financing/new project for Goma airport.

The mission discussed with the UN their works on Beni airport, and with a local operator (Busy Bee Congo), which serves this destination on a regular basis. At the time, Beni airport disposed of a 1,480-meter-long and 30-meter-wide runway, which got a thin overlay done by the UN. The UN planned to extend the runway by 720 meters to reach 2,200 meters and execute other temporary measures that would only serve civilian air transport development to a very limited extent. In order to establish a modern, compliant airport in Beni, the airport needs: (i) an adequate runway of 2,200 meters (category 4), (ii) an equipped control tower, (iii) a completed fencing/boundary wall, (iv) a terminal building with tarmac, and (v) instrument approaches. The overall cost for these works is estimated at about \$100 million, but certain investments (e.g. terminal building) could be financed by private investors. Developing Beni airport is important for its potential economic impact on the region, as well as serving as a relief airport in case Goma airport was disabled due to a natural disaster.

The mission visited two operators to carry out a preliminary safety assessment for staff travel, as well as to receive input on the WB air transport projects in DR Congo. Kin Avia, an operator that is used regularly by the WB out for Kinshasa is a serious operator of four LET 410 and one BE 1900 aircraft. This operator has completed the certification process with AAC and will receive its new AOC shortly. The mission had an overall good impression of Kin Avia, and decided to reclassify this operator to a category 3b (moderately risky) in the airline advisory system. Busy Bee Congo is another operator, which has high safety standards. It operated three DO228 aircraft out of Goma airport and served a few regional destinations on a regular basis. Busy Bee Congo was duly certified by AAC in December 2018 and seemed to keep high safety standards. The mission decided to reclassify this operator to a category 3b (moderately risky) in the airline advisory system.

Concerns were raised about two other operators. Malu Aviation is an operator that had five serious accidents in 20 years and operated very old aircraft. MAF Aviation operates modern Cessna Caravan and one Pilatus PC12 aircraft. They operated under a permit, which only allowed humanitarian flights, not commercial on-demand flights. While many entities and organizations seemed to charter MAF on a regular basis, the mission was concerned that chartering this operator does breach local law and aviation regulations. The mission strongly recommended not to use either operator for WB missions.

In January 2020, a WB air transport team visited Grenada to participate in the preparation mission for the Grenada Caribbean Regional Air Transport Connectivity Program to provide technical guidance to define the scope of project components and procurement. The following project components were discussed with counterparts and reviewed/visited in the field:

Component 1 - Operational Safety and Resilience Enhancement: (i) Runway End Safety Area (RESA); (ii) Instrument Landing System (ILS); (iii) Automatic Dependent Surveillance – Broadcast (ADS-B); (iv) Precision Approach Path Indicator (PAPI); (v) Automatic Terminal Information Service (ATIS); (vi) Resilient cargo equipment and facility.

Component 2 - Technical Assistance and Capacity Building: (i) Preparation of an Aviation Sector Strategic Plan; (ii) Sea Defense Plan for MBIA; Gap analysis of institutional capacity for GAA and Department of Civil Aviation; (iii) ICAO SARPs compliance screening at the



beginning and end of the project; (iv) ATC skills enhancement training; (v) Crash Fire Rescue (CFR) skills enhancement training; (vi) Climate / disaster resilience best practices and skills training; (vii) Wildlife Management plan development and implementation; (viii) Organizational gender diversity training and programs development for airport operators and regulators.

The following additional observations and next steps were concluded: (i) Sharing of recent ICAO audit; (ii) need to pave the Access road to the new cargo facility to avoid FOD (foreign objects debris), such as small stones stuck in tires of cargo trailers; (iii) assess the project's expected economic impact, as next to exports, tourism is the key sector that will benefit from enhanced air transport services; (iv) the implementation of an airport certification program by the ECCAA was underway, but the mission reminded that the ultimate responsibility for certification remains with the

authorities of Grenada; (v) it is important that the WB project coordinates well with the Steering Committee that had been created for the Chinese airport improvement, which should handle both projects to avoid bad coordination; (vi) the following preparatory studies and establishment of terms of reference (TOR) were necessary: (a) combined design and implementation study of the ILS, ADS-B and PAPI; (b) establishment of TOR for the procurement of ILS, ADS-B, PAPI and ATIS; and (c) definition of the way forward to conduct the gap analysis for the T/A needs on regulatory oversight by also considering the inclusion of the ECACAA.

BAHRAIN

In February 2020, a WB air transport team visited Bahrain to participate in a kick-off implementation support mission of the Bahrain Aviation Sector Reform project. The objective of this phase of the RAS was to: (i) discuss and agree with the client on the way forward, including schedule, of the implementation of the RAS, (ii) review and examine the data received from the client for the analysis, (iii) visit and consider the current airport infrastructure, (iv) discuss and gather a deeper understanding on related Policy, regulatory, and operational matters of the air transport sector (airport, airline), and (v) initiate the first output of the RAS, the RAS inception report.

The mission met with H.E. the Minister of Transport and Telecom, who emphasized the importance of air connectivity to Bahrain's economy, as well as the current constraints of the existing airport terminal and the expected improvements to the level of service of the

ongoing Bahrain Airport Modernization (BAM). The mission further met with representatives from Bahrain Airport Company (BAC) and discussed: (i) planning and development; (ii) terminal and air navigation operations; (iii) concessions and lease agreements; (iv) cargo and freight; (v) fuel farm project; (vi) marketing and route development, and (vii) finance. In addition, the WB team met with representatives of the Civil Aviation Authority (CAA), including Air Transport directorate and Air Traffic Management directorate. Finally, the WB team met with representatives from Bahrain Tourism and Exhibitions Authority (BTEA) and Bahrain Economic Development Board (BEDB).

Giving the limited information provided prior, the kick-off mission provided a better understanding of the client expectations and helped the determine the type and scope of studies and consultancies that were done in the past. Overall, there is a general agreement that untapped infrastructure capacities, improved operations efficiencies, both on the landside and the airside, and enhanced air traffic management techniques need to be exploited prior to committing any major capital investments (new airport). These potential improvements may require policy, regulatory, legal and investment environment reforms. The Bank RAS team will proceed with the scope of advisory services defined in the Legal Agreement (see below). In addition, a new roadmap will need to be prepared, which includes proposed reforms, roles and responsibilities, and decision points concerning the way forward to the point where new infrastructure is needed.





UZBEKISTAN

In February 2020, a WB air transport team visited Tashkent, Uzbekistan to participate in the second RAS kick-off implementation support mission with the following objectives: (i) lead technical discussions with the client and provide strategic advice on all technical and policy aspects; (ii) assess the issues discussed and raised by the client during the meetings to advise on additional areas to be addressed in the RAS scope or to be removed from the RAS scope, in line with the overall RAS objectives and TORs; (iii) present at the Uzbekistan Aviation, Airports and Logistics Forum 2020 aspects of air transport development in Uzbekistan; (iv) provide inputs to the BTOR and co-lead the preparation of the Inception Report upon the mission; and (v) support in identifying suitable candidates in aviation policy and in airport management and operations.

The mission team met with representatives of the Ministry of Transport, the Airport Company, the national airline “Uzbekistan Airways,” and the Maintenance and Repair Organization to discuss the support provided by the RAS. A special focus was made on the proposed STCs, which are all very senior representatives of the industry. Prior to the mission, the team interviewed several potential experts for the RAS, which included the Legal Advisor, the Airports Operations specialist, the Airport and the Airline Safety experts, and Airline Operations advisors. All interviewed candidates have expressed interest in joining the RAS team, but the

individual hiring process had just started and some major topics (e.g. salary) have not yet been discussed.

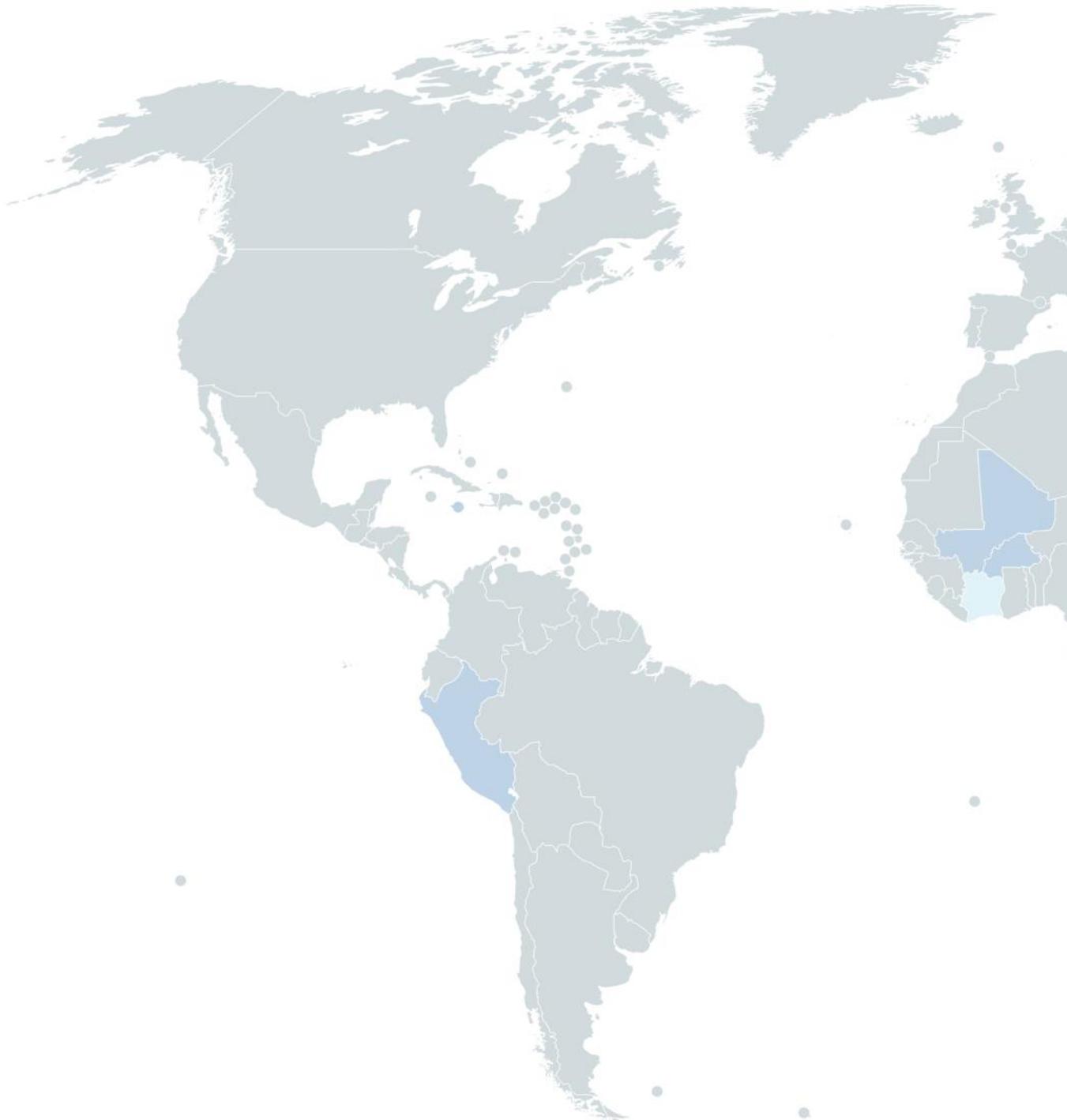
The mission attended the Uzbekistan Aviation, Airports and Logistics Forum 2020, where the World Bank Air Transport team outlined global and local issues of air transport development in relationship to Uzbekistan (see attached). The Forum was also an interesting platform to exchange insights and information on the overall reform process of the air transport sector of Uzbekistan. One notable challenge is the fact that there are many entities that aim at intervening on the sector, be it some representatives of the “old system,” who want the stall or slow down reforms, be it the airports which seek cooperation with potential investors, or be it the existing airline, which is focused on an expansionary strategy given the arrival of their fifth B787 aircraft while concerns about profitability are raising.

Overall, the mission was confident that the identified Short Term Consultant experts will form a coherent expert team, which will not only comply to the terms of reference of the RAS, but truly add value by facilitating necessary reforms to lead the air transport sector development.

IFC AIR TRANSPORT PROJECTS: The IFC provides financing to private sector companies and has traditionally financed air carriers and airport infrastructure projects.

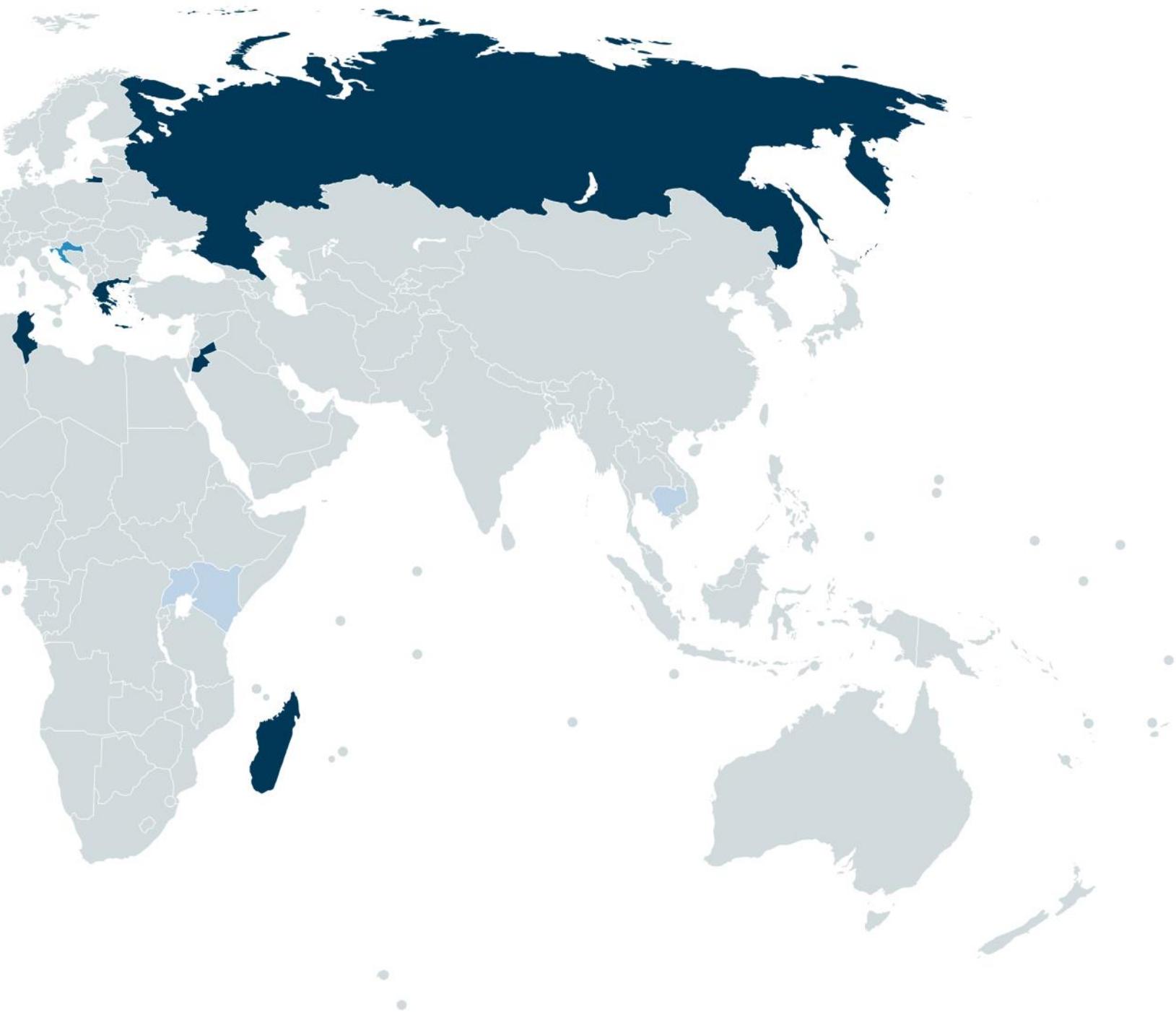
IFC ACTIVE AVIATION PORTFOLIO: Major active projects financed by the International Finance Corporation (IFC) include Queen Alia Airport in Jordan, the Zagreb Airport in Croatia, the Enfidha Airport construction in Tunisia, as well as Belgrade Airport in Serbia. In addition, the IFC investment portfolio also includes Lima Airport in Peru and the 14 Regional Airports in Greece.

In addition, IFC is active through the provision of Advisory Services for Kingston Airport (Jamaica), the Saudi Airports (26 in total), Sofia Airport (Bulgaria), Podgorica and Tivat (Montenegro), Beirut Airport (Lebanon) and Clark Airport (Philippines).



IFC Commitment

- US\$1 to \$10 Million
- US\$10 to \$30 Million
- US\$30 to \$50 Million
- > US\$50 Million



IFC PROJECTS

COUNTRY	PROJECT CODE	DESCRIPTION	AMOUNT (USD)	IFC'S EXPOSURE (as of end of FY2020) USD*	TYPE
Jordan	26182, 34536, 26864, 26685	Queen Alia International Airport: Rehabilitation of both airside and landside facilities	USD295 million; USD148.4million for IFC's own account	\$110.8 million in loans, and \$24.2 million in swaps	IFC A Loan USD141.2 million; USD160 million B Loan (26182) and (34536) IFC Client Risk Management - Cross Currency Swaps (26864, 26685)
Kenya	31650	KQ Airways: Expansion program consisting of the acquisition of 9 Boeing 787 Dreamliner aircrafts and 10 Embraer 190 aircrafts	USD25 million	\$19.4 million	Equity
Peru	24489	Lima Airports Partnership: Financial restructuring and assistance in conjunction with Fraport	USD20 million	USD13.4 million	Equity
Tunisia	26913, 28076	TAV Tunisia: Construction of a new airport in Enfidha, with an initial capacity of 7 million passengers per year, and rehabilitation of the airport in Monastir	USD253 million; USD184 million for IFC's own account	\$25.0 million in loans	IFC A Loan, Subordinated Loan, Syndicated B Loan, Equity

IFC PROJECTS

COUNTRY	PROJECT CODE	DESCRIPTION	AMOUNT (USD)	IFC'S EXPOSURE (as of end of FY2020) USD*	TYPE
Croatia	31969, 34380	Zagreb Airport: Construction and operation of a new passenger terminal and related infrastructure at Zagreb Airport and the existing facilities.	USD72.65 million for IFC's own account (31969)	\$3.4 million in loans and \$14.4 million in equity (31969)	A Loan, Equity, and C Loan (31969)
Greece	37655	Greek Airports (Infrastructure services upgrade at 7 airports)	USD97.4 million A Loan and USD3.8 million swap (Commitment in Euros)	\$98.6 million in loans and \$10.7 million in risk management products	A Loan and Client Risk Management
	38905	Greek Airports B (Modernization of 7 additional airports in key Greek islands)	USD65.9 million A Loan and USD2.8 million swap (Commitment in Euros)	\$67.6 million in loans and \$7.1 million in risk management products	A Loan and Client Risk Management
Madagascar	36882	FCS RE-Ravinala: Upgrade and expansion of the two international airports of the country, with the help of the Emerging Africa Infrastructure Fund.	USD43.5 million A Loan, USD109.4 million Parallel Loan and USD71.3 million MIGA Guarantee	\$26.2 million in loans and \$16.3 million in risk management products	A Loan, Parallel Loan and MIGA Guarantee
Serbia	41123	Belgrade Airport: Capacity increase and upfront concession fee for the airports authority	EUR 72 million A Loan for IFC's own account plus EUR 110 million B Loan	\$58.9 million in loans	A Loan and B Loan

IFC: PROJECT HIGHLIGHTS

BULGARIA SOFIA AIRPORT (25713)

In April 2021, IFC closed a €30 million senior loan to SOF Connect AD, the Sofia Airport concessionaire, to support its operations and infrastructure upgrades. This is the first major airport-sector transaction to close in the Europe and Central Asia region since the onset of the COVID-19 pandemic. As part of the total financing package of €240 million, IFC's funding will be used to modernize and upgrade the airport, including refurbishment and optimization of existing terminal facilities and aircraft gates to boost efficiency, provide quality passenger services, and expand commercial offerings.

The concession agreement between Bulgaria's Ministry of Transport, Infrastructure, Information Technology, and Communications and SOF Connect—a project company established by Meridiam's Europe Infrastructure III Fund—as the main investor was signed on July 22, 2020. IFC, as the lead transaction advisor, helped the government design a competitive and transparent tender for this public-private partnership—the first major PPP in Bulgaria over the last decade and the first under

the new Concession Act. Under the PPP model, SOF Connect AD will be responsible for improving the airport's operations, quality of service, and financing the airport's infrastructure upgrades over the next 35 years before transferring it back to the government.

A private sector-led investment and upgrades to Sofia Airport will help drive economic growth in Bulgaria by enabling increased international trade and tourism, creating jobs and adding value along one of the critical transport infrastructures in the country's supply chain.

SERBIA BELGRADE AIRPORT (41123)

In December 2018, IFC signed a €182 million financing package to the new private concessionaire of Belgrade Airport Nikola Tesla, VINCI Airports Serbia, a subsidiary of VINCI Airports SAS. The concessionaire will develop and upgrade Belgrade's Nikola Tesla Airport, to boost Serbia's tourism and transport industry and encourage economic growth.



IFC: PROJECT HIGHLIGHTS

Total costs for the Belgrade airport project are estimated at €982 million, including an upfront concession fee of €501 million payable to the government of Serbia, and approximately €380 million in capital expenditures and development costs. The upgrades are expected to increase the airport's capacity to a service level of more than 14 million passengers annually by the end of the concession period in 2043, from 5.3 million in 2017.

GREECE

GREEK AIRPORTS (37655/38905)

In March 2017, IFC signed two long-term loans (€154 million) to Fraport Greece, a joint venture of Fraport AG Frankfurt Airport Services Worldwide and Copelouzos Group, for the privatization of 14 Greek regional airports. The IFC financings are part of a nearly €1.0 billion long-term debt package put together by five international and Greek financial institutions. The consortium was awarded a 40-year concession to modernize and operate the airports, which are in some of Greece's best known tourist destinations.

The first loan from IFC, worth €92 million, will enable Fraport Greece to implement the upgrade of the infrastructure and services at Thessaloniki, Kerkyra (Corfu), Chania (Crete), Kefalonia, Zakynthos, Aktion, and Kavala airports. The second €62

million loan will favor the company's plans to modernize and expand Rhodes, Kos, Samos, Mytilene, Mykonos, Santorini, and Skiathos airports. Tourism is a vital part of the Greek economy, accounting for approximately 16 percent of gross domestic product and nearly 18 percent of jobs. The 14 airports currently serve half of Greece's international passengers and have reached their capacity limit. Once completed, the upgrades and expansions are expected to almost double the terminal area and raise the number of served passengers by 20 percent. That will allow them to accommodate up to 27.5 million passengers in four years. The upgrades will include expansions, internal renovations, and increased retail and travel services. They will also create significant operational efficiencies for the airports.

Contact persons for all IFC Investment projects are Maria Lopez Conde at mlopezconde@ifc.org, Pierre Pozzo di Borgo at ppozzodiborgo@ifc.org, Andre Van Hoeck at avanhoeck@ifc.org, and Navaid A. Qureshi at nqureshi@ifc.org.





IFC: AIR TRANSPORT ADVISORY MANDATES

The Infrastructure Advisory Services Department of the IFC provides advisory assistance to governments on structuring and implementing (tendering) Public-Private-Partnerships (PPPs) in infrastructure. IFC has undertaken more than 100 advisory transactions in over 67 countries over the last 20 years. IFC/World Bank's reputation for competence, transparency, and fairness allows it to play the role of neutral partner to balance each party's interest, thus reassuring foreign investors, local partners, other creditors, and government authorities. The two main domains in air transportation advisory services are private sector participation in airports and air carriers.

1) IFC Public-Private Partnerships (PPP) Advisory Mandates in Airports

Only a fraction of the world's commercial airports are managed or owned by private sector entities. However, as passengers carried by air transport has neared 4.1 billion in 2017, and more than one-third in value of all merchandise and goods were air freighted – Public-Private-Partnerships (PPPs) in airport infrastructure will grow to meet investment and required service standards. Airport PPPs are useful approaches to meet both private and public sector objectives.

Of the various airport PPP models available, experience shows that concessions and full divestiture are most effective:

- Concession Contracts (BOT, BOO, BOOT, BTO, etc.): State retains ownership of airport but transfers investment as well as operations and management responsibilities to the private sector
- Full Divestiture: Ownership, operations, and investment responsibilities are fully transferred to the private sector.
- In certain cases, a blend of first-phase BOT followed by public offering can maximize benefits

In certain cases, a blend of first-phase BOT followed by public offering can maximize benefits.

2) IFC Public-Private Partnerships (PPP) Advisory Mandates in Airlines

As the airline industry has proceeded along this privatization path over the last 30 years, IFC has participated in nearly a dozen airline transactions. Unfortunately, many have proved to be difficult

projects due to important sector-specific structural reasons:

- Fixed-cost structure: Airlines tend to build up a legacy-costs base (staff and fleet) that is difficult for a new owner to manage. In addition, fuel costs are beyond management's control. During the period of higher oil price in 2011-2014, they accounted for as much as 30 percent of the cost base (up from 15-20 percent in 2009), and have since dropped with declining oil prices (variations according to individual airline hedging strategies).
- Price-sensitive product: Demand for travel is highly elastic, especially in tourist markets. In recessions, people forego vacations for other consumer goods. Conversely, price reductions increase passenger numbers dramatically.
- Complicated demand chain: Customers often purchase tickets through travel agents, frequently in a package with hotel accommodations. Since airlines rely on these other actors for their sales, if there are bottlenecks elsewhere the aviation sector suffers.
- Overregulation: Bilateral agreements between governments, still prevalent in many parts of the world, prevent competition from functioning normally. Open skies are being adopted, but not in all countries.

3) IFC Air Transportation Experience

When undertaking a transaction advisory mandate, IFC provides a one-stop solution to governments covering all aspects of the proposed transaction. One of the distinguishing features of IFC's value addition is its ability to balance private and public sector interests and take into account sustainable long term economic and social effects.

Selected IFC Advisory Mandates in Airports

PROJECT NAME	COUNTRY	YEAR	MANDATE/RESULT
Grantley Adams Airport	Barbados	2019-ongoing	RFQ completed
Montenegro Airports	Montenegro	2018-ongoing	RFQ completed
Beirut Airport	Lebanon	2018-ongoing	Government approval stage
Dili Airport	East Timor	2014	Due diligence stage
Sofia Airport	Bulgaria	2017-ongoing	Awarded to Meridiam, Strabag, Munich Airport consortium
Nepal Airports	Nepal	2016-ongoing	Strategic Assessment Ongoing
Clark Airport	Philippines	2018	Awarded to Changi led consortium
Norman Manley Airport	Jamaica	2018	Awarded to GAP led consortium
Samoa Airline JV	Samoa	2017	JV Options Analysis
Jacksons Airport	Papua New Guinea	2017	Strategic Options Analysis
Jeddah Airport	Saudi Arabia	2016	Due Diligence / Project Structuring / Tender process
Taif Airport	Saudi Arabia	2016	Due Diligence / Project Structuring
Saint Lucia Airport	Saint Lucia	2016	Due Diligence / Project Structuring
Croatia Airlines	Croatia	2015	Strategic Partnership analysis
Brazilian Airports	Brazil	2014	Galeao and Confins Airports successfully awarded to Changi and Zurich Airport led consortiums respectively
Dili Airport	East Timor	2014	Feasibility Study Completed
Madinah Airport	Saudi Arabia	2012	Successfully awarded to TAV, Saudi Oger, Al Rajhi consortium
Male Airport	Maldives	2010	Successfully awarded to MAHB —GMR
Queen Alia Airport	Jordan	2007	Successfully awarded to Aéroports de Paris, ADIC, J&P, Noor consortium
Hajj Terminal	Saudi Arabia	2007	Successfully awarded to Saudi Bin Laden Group, Aéroports de Paris consortium
Abuja Airport	Nigeria	2006	Successfully awarded to Abuja Gate-way consortium (Airport Authority and equity partners)
Air Jamaica	Jamaica	2009	Awarded to Caribbean Airlines
Drukair	Bhutan	2008	Strategic analysis
JAT	Yugoslavia	2006	Strategic analysis
Polynesian Airlines	Samoa	2005	49% sold to Virgin Blue
Cameroon Airlines	Cameroon	2005	Awarded but cancelled by Govt.
Air Tanzania	Tanzania	2002	49% sold to SAA
Kenya Airways	Kenya	1996	76% sold to KLM, financial investors

ADVISORY MANDATE EXAMPLE: BULGARIA

SOFIA AIRPORT

The Government of Bulgaria (the "GOB"), through the Ministry of Transport ("MoT"), successfully concluded a Public Private Partnership ("PPP" or the "Transaction") bid process for Sofia International Airport (the "Airport"), with commercial and financial close reached in July 2020 and January 2021, respectively. The scope involves improving operations and services to passengers and finance significant upgrades to the airport infrastructure, including building a new terminal under a concession contract with a 35-year term. The tender, which was launched ahead of the CV19 pandemic, attracted interest from five international bidders and was awarded to the SOF Connect consortium, comprised of Meridiam and Strabag as shareholders, as well as Munich airport as an experienced external operator.

Currently, the airport is operating at 30% capacity but - depending on the global impact of the ongoing pandemic - it is projected to recover in the next three to four years to its 2019 peak of 7 million annual passengers. The predicted traffic will come from the diaspora of 2.5 million Bulgarians who live outside the country, along with the return of the tourism industry, which contributed USD 5 billion annually to the economy before the pandemic. An efficient airport will also attract new tech-sector investors and support the thousands of micro, small and medium-sized enterprises created by Bulgarian entrepreneurs that employ an estimated 350,000+ workers.

This is the first major airport-sector transaction to close amidst a global pandemic that has grounded many of the world's commercial planes. The International Finance Corporation ("IFC"), through its PPP Transaction Advisory team, was the Lead Ad-

visor to the MoT on the Transaction, helping the government of Bulgaria to competitively tender the first major PPP project in Bulgaria over the last decade, in accordance with best international practice, and the first to be developed under the new Concession Law.

The project was implemented in cooperation with the European Bank for Reconstruction and Development (EBRD) with funding from the Global Infrastructure Facility, a multi-donor fund created to support public-private partnerships. IFC as one of the lenders to the project, is also providing Euros 30min in funding to the future concessionaire, to support its operations and infrastructure upgrades.

Together the Project delivered to the GoB (i) Euros 281m in upfront concession payments; and is expected to deliver (ii) annual concession fees equal to 32% of revenues (but not less than Euros 25m); (iii) a capital investment commitment in excess of Euros 600m; (iv) a critical platform to facilitate the growth in visitors and cargo providing for an economic boost in a post pandemic era; and (v) fiscal space savings that can be used where public funds are most needed.

*Contact person for all IFC Advisory Services
Ramatou Magagi at rmaqaqi@ifc.org and
Alexandre Leigh at aleigh@ifc.org*





MIGA GUARANTEES

Guarantees provided by the Multilateral Investment Guarantee Agency (MIGA) cover projects in a broad range of sectors, with projects in infrastructure accounting for an important share of the agency's portfolio. Infrastructure development is an important priority for MIGA given the estimated need for USD 230 billion a year solely for new investment (maintenance needs are of a similar magnitude) to deal with rapidly growing urban centers and underserved rural populations in developing countries. MIGA is currently involved in three aviation projects: the Queen Alia International Airport in Jordan, Jorge Chavez International Airport in Peru and the Ravalala Airports in Madagascar.

JORDAN: Queen Alia International Airport

On 30 March 2018, MIGA agreed to issue guarantees of up to USD 195,154,839 to Meridiam Eastern Europe Investments 2 SAS (Meridiam) of France for its equity/quasi-equity investment into Airport International Group (AIG), the current concessionaire of the Queen Alia International Airport (QAIA) in Jordan. The guarantees are issued for a period of up to 15 years against the risks of Transfer Restriction, Expropriation, War and Civil Disturbance and Breach of Contract.

The project consists of the acquisition by Meridiam of a 32 percent stake in AIG, which entered a 25-year concession agreement with the Government of Jordan (GoJ) in 2007 to rehabilitate, expand and operate QAIA with the possibility to extend the concession by an additional 5 years (until 2037).

The proposed investment by Meridiam will enable capital expenditures to be directed towards optimizing the commercial activities of Jordan's principal airport (e.g. duty free shopping, specialty retail, food and beverages) which is expected to lead to higher non-aeronautical revenues, thereby generating additional revenues for Jordan over the duration of the REOA while enhancing the passengers' travel and retail shopping experience. The airport is an important infrastructure asset for Jordan, used by over 7 million passengers in 2017, supporting the country's economic growth and development, notably

through the tourism sector. The acquisition is expected to reinforce the role of QAIA, consistent with the Jordan Economic Growth Plan spanning 2018-2022. The acquisition will support existing and new direct employment opportunities at QAIA, as well as indirect employment by domestic suppliers and service providers.

MADAGASCAR: Ravalala Airports

On 29 May 2017, MIGA issued an USD85 million guarantee covering equity and shareholder loan investments by Aéroports de Paris Management S.A, Bouygues Bâtiment International S.A.S., Colas S.A. and Meridiam Infrastructure Africa Fund, Meridiam Infrastructure Africa Parallel Fund FIPS, Meridiam Infrastructure Africa Parallel Fund SCsp into Ravalala Airports S.A. in Madagascar. The coverage is for a period of up to 15 years against the risks of transfer restriction, expropriation, war and civil disturbance, and breach of contract.

The project consists of the financing, rehabilitation/ expansion, operation and maintenance of the Ivato airport in Antananarivo and the Fascene airport in Nosy Be, currently being managed by the state-owned enterprise Aéroports De Madagascar (ADEMA). Works include (i) works at Ivato in preparation of the Francophonie summit (expansion of apron and presidential pavilion as well as establishment of a dedicated process path in the existing terminal for arriving/departing delegations), to be held in Antananarivo (the country's capital) at the end of November; (ii) construction of a new passenger terminal at Ivato airport and limited refurbishment works in the existing terminal; (iii) renovation of the runway and Tarmac II to host aircrafts Code E and one Code F at Ivato; (iv) renovation of the runway and limited expansion of the current passenger terminal at Fascene airport; and (v) rehabilitation of landside facilities at both airports, including the construction of new wastewater treatment plants, improvement of the existing incinerator at Fascene airport to meet emission standards, improvement of surface water drainage, construction of a new waste water treatment plant and installation of an oil water separator at Ivato airport.

The project's major expected development impact is to help upgrade and improve Madagascar's most important international and local gateways by implementing much



needed investment, delivering better services and offering more efficient air travel options. It will thus contribute to facilitate tourism, a key sector to unlock economic growth in the country, as well as help develop linked economic activities and create jobs. The project is also expected to have a significant demonstration effect for investors into the country, as well as providing a platform for the implementation of further public-private partnerships.

PERU: Jorge Chavez International Airport (JCIA)

MIGA has provided Fraport AG, of Germany, with a guarantee for USD 11.5 million, to cover its USD 12.8 million counter guarantee for a performance bond posted for the privatization of Lima's airport, Jorge Chavez International Airport (JCIA). The coverage is against the risk of expropriation (the wrongful call of the performance bond), and extended for eight years.

Peru depends greatly on its airport network because of the country's geography, and because ground handling transportation infrastructure has not been fully developed. JCIA is especially important to the country, since it is Peru's main operating international airport, accounting for 97% of international traffic, as well as some 58 percent of national traffic. JCIA also functions as a regional hub for all cargo traffic. The airport privatization is considered by the government as a key factor in the expansion of employment opportunities, the creation of a modern transportation facility to serve as Peru's gateway to the world, and for the enhancement of tourism, an industry that the

government is actively trying to expand.

The airport's privatization is expected to provide the government with additional revenues through increased income tax, custom duties, and concession fees. During the first four years of the concession, the consortium is expected to invest more than USD 130 million in new infrastructure, including upgrades to the current terminal, construction of a new passenger concourse, expansion and addition of new aircraft aprons and taxiways, and creation of a hotel and world-class retail center within the existing airport perimeter. Upgrades in the technology and services at the airport will create approximately 49 additional positions, mostly for expert technicians and service operators. The sponsors have instituted an employee profit-sharing plan. The majority of the goods and services required by the airport refurbishment will be sourced locally, and most ongoing capital expenditures foreseen, amounting to USD 1 billion over the entire life of the concession, will be sourced locally. Furthermore, the government will benefit from improvements in JCIA's operation, through a revenue-sharing agreement as well as a landing and take-off fee-sharing agreement.

The Lima Airport Guarantee expired by the end of FY2020.

Contact persons for MIGA portfolio information are Moritz Nikolaus Nebe at mnebe@worldbank.org and Susan Josefina Vasquez at svasquezplasenci@worldbank.org

AIR TRANSPORT COMMUNITY OF PRACTICE

AIRPORTS COUNCIL INTERNATIONAL LATIN AMERICA AND THE CARIBBEAN (ACI LAC) IMPACT OF THE COVID-19 PANDEMIC IN THE LAC REGION

On 23 April 2020, the WB Air Transport Team participated in a Webinar hosted by ACI LAC to discuss the COVID-19 pandemic’s impact in the LAC region’s aviation sector, particularly airlines. Recommendations for airlines to tackle the crisis included:

- Preserve cash: cut costs aggressively, delay payments if possible, secure funding (loans, grants etc.).
- Adjust Operations: maintain minimum operations, develop options for redeployment.
- Secure Systems & Infrastructure: secure and maintain key systems and infrastructure, Mothball (divest or liquidate unnecessary or obsolete assets).
- Restructure Human Resources: retain and assure key operational staff (staff for ongoing operations), define and “park” essential staff (special skills needed in the future), retrench non-essential staff (staff that can be rehired easily).



Forward-looking conclusions included:

- This is an unprecedented global emergency of unknown outcome –a quick recovery back to normal is not guaranteed.
- The possible return to normality within a few months must be examined against the global economic situation including mounting debt and money supply –the outcome is uncertain.

- The most vulnerable in the air transport network are the airlines –many may not survive.
- Priority now is the preservation of cash, the maintenance of systems and infrastructure with key staff for survival, and to be ready to return to a normal or to a changed world.

ALG AVIATION COVID-19 BRIEFING ASIA PACIFIC AIRPORTS

In May 2020, the WB Air Transport Team participated in a Webinar hosted by ALG to discuss COVID-19 impacts in Asia Pacific (APAC) Airports. At the time, the region had been the most successful in controlling the impact. South Korea, Taiwan, China & others rapidly implemented “test, trace, isolate”, limiting infections, the extent of restrictions & the associated economic impact. Although impact in South East Asia was delayed, the APAC region had controlled infection and death rates per capita & is well positioned to lead the recovery.

The challenge to recover International traffic & to relax restrictive arrivals quarantine & testing measures, will rely on countries forming “travel bubbles” & coordinated International policies, which could include health screening & certification at origin.

Dramatic drop in demand impacts all sectors of the aviation industry, ranging from airlines to aviation authorities

- Aviation value chain is heavily impacted by the outbreak
- The COVID-19 outbreak has triggered a cascade effect. The dual reduction in capacity & demand has directly impacted airlines which in turn, pass the crisis onto the whole industry. The sustainability of the aviation sector in APAC will depend to a large extent on the adequacy of the rescue and stimulation packages implemented by each national government.
- The liquidity of the weakest link in the chain, the airlines, should be ensured. Airports will follow airlines in requiring relief measures.
- Thailand has agreed lifeline measures for eight carriers, and the Government is

holding talks with Thai Airways. Singapore stepped in to support its airlines and workers with a record SGD48 billion economic stimulus package. South Korea and Malaysia are discussing measures to help the aviation industry, providing loans and tax relief.

Looking forward, there are different recovery scenarios

The COVID-19 outbreak will profoundly change air transport demand & capacity. The depth of change will depend on the length of pandemic recovery & restrictions. The economic downturn and the recovery of passenger confidence will continue to impact the aviation sector.

Different recovery shape depending on Markets and Travel Purpose:

- Domestic/enclosed markets. Expected to recover first if effective control & social distancing initiatives are implemented. Signs of recovery are seen in China.
- International markets. Different recovery pace depending on region or country pair, and affected by many factors: COVID-19 transmission, quarantine or health screen & certification, “travel bubbles”, disease treatment development, macroeconomic impact, etc.
- Travel purpose: (i) for business, early recovery is expected for certain businesses where mobility is

a must; (ii) for visiting Friends and Relatives, recovery may take longer for lower-income groups; (iii) for tourism, the sector has been heavily hit and its recovery is expected to be delayed. The combination of lower confidence and economic impact in tourism products is likely to affect this passenger segment.

Aviation market recovery is strongly dependent on Government policies

- Airport recovery profile will be highly dependent on different country travel restrictions.
- Major hubs “gateways” combining solvent FSNC that are likely to receive government support, with LCC operating point to point markets.
- Major international hubs: Strong FSNC connecting INT-INT markets are more likely to suffer from Int travel restrictions, problems related to transfer passengers & weakness in long haul travel and tourism from affected areas outside APAC.
- Regional international airport without a major FSNC base & served by LCC.
- Major/medium touristic airports, especially those with long haul services, with relevant tour operator/charter offer.

Airports are facing difficult challenges and will need assistance to adapt

- The IATA revenue forecast (31 March 2020) estimates that the impact of the pandemic accounts for -50% fall in RPKs and minus USD 113 billion versus 2019 levels for the region.
- Economic, financial and fiscal measures provided by governments will be essential.
- Airport concession fees or dividends should be revised and if possible, temporarily waived as a force majeure incident.
- Delay in infrastructure development requirements to maintain cash or cash equivalents to cover operational and fixed costs during the pandemic.
- Lower level of service for some airports to reduce operational costs.
- Airports can benefit from the removal of 80/20 slot rule by reducing their operating costs and building trust with airlines.

Airport Operator responsiveness

- Pre-Quarantine: A Business Continuity Plan outlines how essential operations and services are maintained, either by establishing deeper layers of resilience for essential operations and services, or through alternative arrangements.
- Quarantine: Operational Challenges Issues & New Processes. As governments restrict travel and enforce social distancing to control the pandemic, airports are having to implement new trav-



- el processes and IT solutions for the new normal pre-vaccine.
- Open trials: Refinancing Operations. Airport operators will require refinancing packages and loan modifications to bridge cash flow requirements.
- Restoring confidence and future economic recovery. Concession Agreements & Scheme Reviews. Airports under PPP scheme may apply their Force Majeure Event clauses. The review of the economic model of the concession will be imperative to ensure the financial viability of the concessionaire.
- In addition to the usual temperature checks, Health Screening & Certification may be required at origin with Certification and Questionnaire checks taking place at arrival.

WORLD BANK WEBINAR MIDDLE EAST AVIATION SECTOR AFTER COVID-19

The operational challenge as airports & airlines adapt to the new normal

- Air transport was a vector for the initial spread of the virus around the World. As APAC countries successfully control the virus with “test, trace, isolate” and social distancing, one of the greatest challenges for airports & airlines is how to become part of the solution & resume pre-vaccine travel at higher volumes under the new normal.
- Pre-screening and Certification. Many APAC countries have successfully contained new imports of the virus through quarantine & arrival testing. If country pairs & regions (ASEAN+, AUS-NZ) agree quarantine free “travel bubbles”, solutions are likely to involve Health Questionnaires & even Health Screening/Testing & Certification at origin prior to travel.

Social distancing & sanitization

- Prohibited access of visitors to the terminal, whilst passengers will need to wear masks.
- Thermal detection & health checkpoints on arrivals, terminal entry & departure (SIN).
- Increased social distancing (line markings & signage), reduced seating & avoiding cross flows.
- Checked-in hand baggage simplifying security & boarding processes and sanitization booths (HKG)
- Compulsory bracelets paired with Geo-fencing tracking app at HKG and PPE & protective screens for staff protection.
- Hand sanitizer dispensers & thorough disinfection of public areas & toilets (in HKG with robots and UV).

Cabin experience

- Use of face masks.
- Controlled access to toilets.
- The empty middle seat measure is not likely to be implemented due to the economic impact it implies.

Testing and screening

- Testing upon arrival as in HKG, or quarantine is unlikely to be viable at higher volumes.

On 02 June 2020, the WB Air Transport Team hosted a Webinar to discuss COVID-19 impacts in the Middle East (ME) aviation sector. Before COVID-19, Middle East was expected to remain as one of the world’s fastest growing markets, only outpaced by the APAC region. Turkey, UAE and KSA were the main markets in the region, with 69% of the combined seat supply. Key session takeaways are presented below:

- The Middle East was the fastest growing macro-region in the past decade. Optimistic trends moving forward prior to the COVID-19 outbreak.
- The market strength came primarily from its mid/long-haul O/D links, Asia and Europe, as well as the main transfer market pairs between those regions.
- Seat supply growth has been driven by local network carriers and LCCs, at the expense of traditional FSC. LCCs have grown two times faster than the regional average, increasing its share up to 14%, still far from EU and US market penetration above 30%.
- The market was signaling stagnation in late 2018 and 2019, mainly due to market liberalization issues and rationalization of supply to try to increase yields. Network carriers were focusing on retaining market share rather than gaining it.
- The market has shown resilience to oil price fluctuations in the past and there is no reasons to believe this time will be different, yet public-sector policies (diversification) will be key to maintain a thriving economy aside from the trade balance.

Main drivers for characterization of ME air traffic recovery profile

Re-opening date of direct and transit flights:

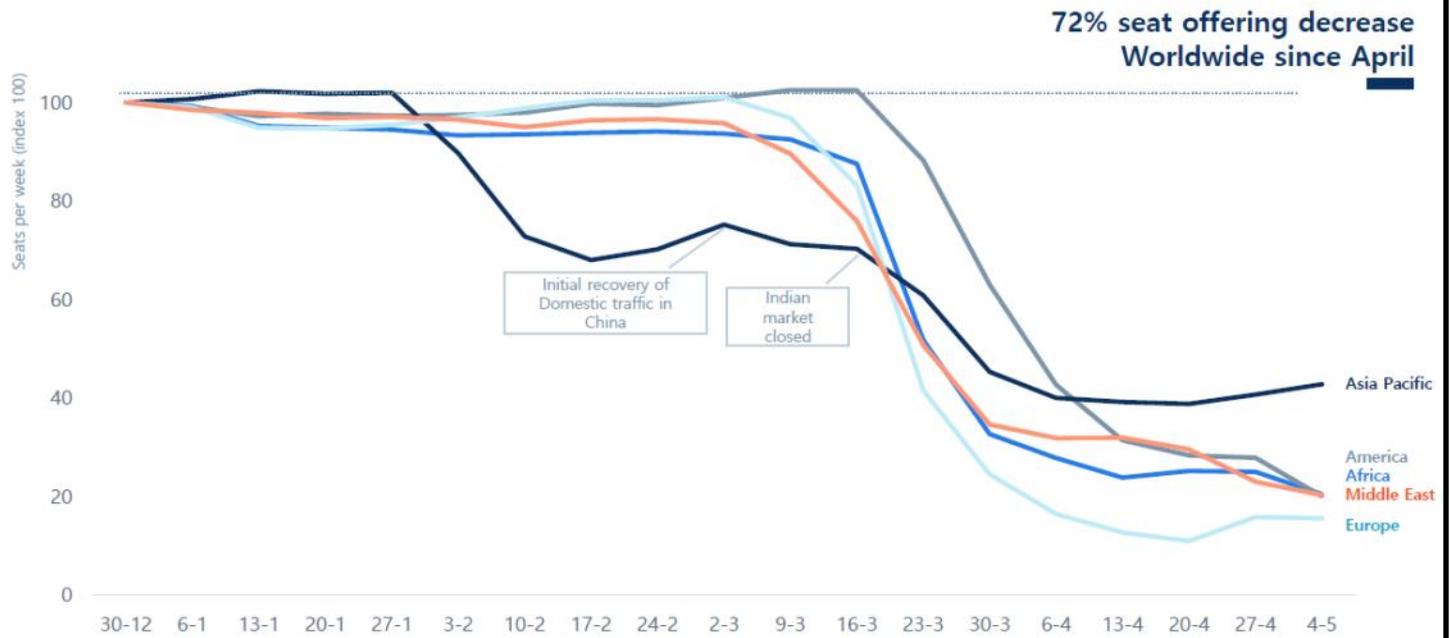
- The current ban allowing air carriers to resume their operations will be raised.
- Restrictions may still apply specific visa requirements, health clearance at point of origin.
- Staged re-opening based on the situation of the origin/destination markets may occur.

Airline response time and network operations:

- Financial status, business continuity plans and re-deployment strategies will set the pace and speed at which each airline will recover on each market.

The COVID-19 outbreak is having a major impact on aviation; global air transport markets are severely affected, with no exception

Seats evolution by region (w1 January 2020 – w2 May 2020)



Source: OAG Schedules Analyser

- Airlines with stronger and more robust balances and/or public support will have shorter response times and prioritize their strategic markets.

AGL-WORLD BANK WEBINAR AFRICA AVIATION SECTOR AFTER COVID-19

Airline fleet changes and/or aircraft grounding:

- In addition to the recovery of operations, airlines may also implement fleet changes based on foreseeable demand and to build lighter cost structures aiming to reduce CASK by operating smaller aircraft.

Airline operational procedures for health and safety considerations

- Social distancing applied by airlines inside the aircraft.
- Load factors will be impacted because of limited air ticket commercialization, and reduced bookings

Passenger trust

- This is the most volatile factor affecting the recovery of air traffic demand. Airlines will face troubles with filling up their aircraft before passengers feel safe when flying – either because there is a cure or just because of mass immunization.

On 08 May 2020, the WB Air Transport Team hosted a Webinar to discuss new challenges and opportunities for the air transport sector in Africa after COVID-19. Key session takeaways are presented below:

- Prior to the COVID-19 pandemic, the lack of connectivity in Africa hindered to convert the emerging market growth into investment opportunities and we need to think outside the box and set innovative processes and solutions to accelerate aviation and air transport growth in Africa.
- COVID-19 has hit Africa as hard as other affected regions; Africa’s capacity is expected to decrease ~32% in 2020.
- Many African airlines are facing viability risks due to liquidity issues.
- Several African airlines can only guarantee their survival under a commercial lockdown for a period of 1 to 3 months, if no additional aviation business support measures are implemented.

Different Airport recovery profiles

- Major hubs combining solvent FSNC that will tend to concentrate a higher number of operations and are likely to receive governmental support.
- Regional hubs with a balanced fleet to provide international services and that are likely to receive governmental support.
- Country gateways with an inelastic demand and with an international economic interest.
- International hubs and airports without a solvent FSNC will depend on the governmental support received.
- Major/medium touristic airports, especially those with a high long-haul services share.

technical assistance and advisory services for knowledge creation and transfer.

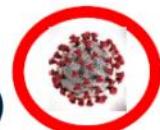
Turning crisis into opportunity

- Develop regulatory and economic frameworks at a Regional or Continental level that reflect the characteristics and needs of the Region and foster air transport growth complying with Safety, Security and Regulatory Oversight standards.
- Clean up a lot of legacy issues, and let the private sector and good management take their rightful place, bring capital, take more rights in shares, and push Governments to their more regulatory space.
- Reform the current National Civil Aviation frameworks in Africa, proposing options to ensure the financial sustainability of all the entities and execute a holistic Aviation National Plan.
- Facilitate that airlines continue establishing and building up a financially sustainable network & fleet and remove barriers that jeopardize airline cooperation and potential integration.

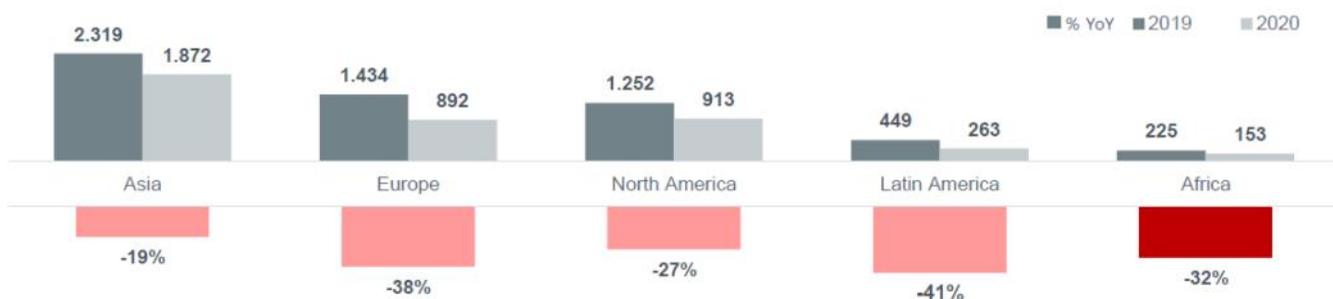
The sector requires public support to make the recovery process viable

- Provide economic, financial and fiscal relief measures.
- Waive concession airport fees (where applicable), fees and taxes.
- Delay infrastructure investment requirements.
- Temporary relief from compliance with quality of service.
- Adoption of a temporary slot waiver.
- The multilateral development banks are key in the recovery in Africa with a triple objective: Mobilize finance, support public procurement and increase

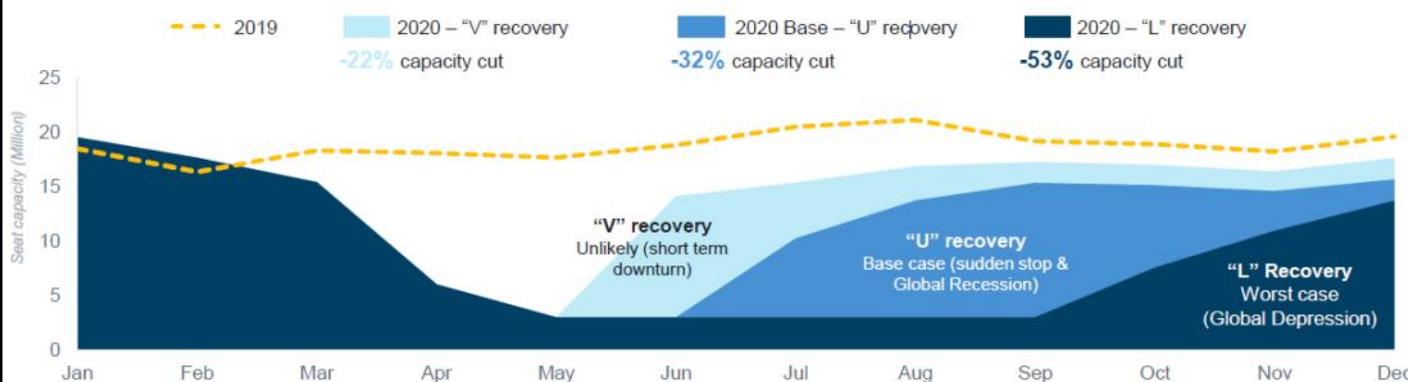
COVID-19 has hit Africa as hard as other affected regions; Africa's capacity is expected to decrease ~32% in 2020 (base case scenario)



Africa's capacity cut-off estimation – "U" recovery scenario (seats 2020 v. 2019)



COVID-19 impact's estimation by scenarios: Africa (Mseats, 2020 v. 2019)



Source: OAG schedule analyzer, ALG analysis

AIR CARRIER ADVISORY SYSTEM

WORLD BANK STAFF AIR TRAVEL

The Bank has maintained an evaluation tool for assessing risks associated with air travel for mission travel since 2008. The air carrier advisory system developed by the Bank’s General Services Department and Air Transport team was launched in FY2011. Airline ratings/risk are based on the following criteria:

Risk Criteria:

1. *Serious accident in the last 3 years (defined as any incident that results in injury or death of a passenger, or substantial damage to the aircraft)*
2. *Registered in a country with poor oversight (based on ICAO safety audit)*
3. *A flag of convenience airline (an airline that is registered and maintained in a country other than where it operates)*
4. *Use of aircraft over 20 years old*

Overall there were 193,686 flights booked

by American Express for Bank staff in Fiscal Year 2017 (from HQ), representing a decrease in traveling by 0.4 percent compared to Fiscal Year 2016. The majority of flights booked were with airlines considered to be “Good to fly”. This data does not capture trips arranged in the regions.

Travelers should be aware that surface transportation may not always be possible or may represent more risks than air travel in some client countries. The advisory team continues to provide on-demand assessments and safety advice for operational staff.

Contact person is Ndeye Anna Ba at nba@worldbank.org

	DESCRIPTION	RECOMMENDATION FOR STAFF
1	All airlines that are industry certified by having passed an IATA IOSA audit, unless subsequent safety experience indicates a safety problem.	Good to fly. The Bank has no objection to using these airlines.
2	All airlines that though they are not industry certified are either licensed by a country with an FAA IASA rating of Category 1, or are known to the Bank as safe carriers.	Good to fly. The Bank has no objection to using these airlines.
3	All airlines that are not in (1) or (2) above, or are on any blacklists, or are deemed to be unsafe for other reasons.	<p>3a. Airlines that do not qualify for Category 1 or 2, but have been reviewed by the Bank’s air transport specialist and considered good to fly.</p> <p>3b. Airlines that have 1 of the 4 risk criteria listed below, or some other safety factor that has been raised by the Bank’s air transport specialist. Check to see if there are any viable and safer transport alternatives before selecting this airline for mission travel.</p> <p>3c. Airlines with significantly elevated risk and 2 or more of the 4 risk criteria listed below, or some other safety factor that has been raised by the Bank’s air transport specialist. Use only for essential missions and only if no viable and safer transport alternatives are available.</p>



40th ICAO ASSEMBLY

In September 2019, The WB Air Transport Team participated in the 40th ICAO Assembly, which took place in Montreal, Canada. The Assembly occurs every three years and is attended by ICAO's 193 Member States and numerous international organizations. During the 40th assembly, ICAO worked on an array of technical, economic, legal and technical topics, which established the worldwide policy of the Organization for the upcoming triennium.

The environment was at the top of the agenda. Following some intense discussions between states, there were two critical outcomes: (i) the ICAO Council will report to the next Assembly (2022) on options for the adoption of a long-term aspirational goal for reducing carbon emissions from international aviation; and (ii) The Assembly passed a resolution that reaffirmed and strengthened its support for the successful implementation of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)—the world's first global carbon offsetting scheme. A decade ago, the aviation industry agreed a long-term goal to cut aviation emissions to half the levels of 2005 by 2050 and is working on a pathway to achieve that goal. This Assembly marks the first time that ICAO member states have agreed to consider a long-term goal for governments to reduce aviation emissions. This move is strongly welcomed by airlines, which was confirmed by OIATA. Meanwhile, the enhanced and strong support for CORSIA will shore-up the important step of capping aviation's emissions from 2020. The objective of CORSIA is to offset growth of international flight emissions from 2021, generating some \$40 billion of aviation-funded climate finance by 2035.

The Assembly also made decisions on many other critical issues and initiatives. The highlights include:

- **Passengers with Disabilities:** The Assembly requested the ICAO Council to develop a work program on accessibility for passengers with disabilities in order to reach for a disability-inclusive air transport system. This aligns with IATA's call for governments to adopt a globally harmonized approach to enabling passengers with disabilities to travel safely and with dignity.

- **Unmanned Aircraft Systems (Drones):** The Assembly directed the ICAO Council to urgently consider the establishment of a high-level body with the industry to regularly provide strategic advice to the Council concerning innovation. This includes issues like the integration of UAS into airspace. This aligns with the airline industry's call for states to work together through ICAO and in cooperation with industry to develop provisions for these airspace new entrants.
- **Unruly Passengers:** The Assembly resolved to urge states to ratify Montreal Protocol of 2014 which modernizes measures to deal with unruly passengers.
- **One ID:** The Assembly endorsed the IATA One ID project which highlights the benefits of biometric recognition to secure and facilitate the passenger clearance process.
- **Harmful Interference with Global Navigation Satellite Systems (GNSS):** The Assembly called for measures to manage and reduce the impact from harmful interference to GNSS on the safety and efficiency of aircraft and air traffic management operations. This addresses the need for measures to reduce the vulnerability of GNSS.
- **Infrastructure Shortcomings:** The Assembly agreed that governments should implement the necessary infrastructure components to meet existing and future demand in alignment with the Global Air Navigation Plan. The Assembly also agreed that governments need to work with aviation stakeholders to identify and address infrastructure challenges in a timely manner.
- **Taxation of international air transport:** The Assembly agreed to urge States to assess any related national objectives in accordance with ICAO's policies, and to conduct appropriate cost-benefit analyses before the introduction of taxes on air transport.
- **Air Transport Liberalization:** The Assembly also endorsed a range of items supporting the ICAO Long-term Vision for International Air Transport Liberalization. Specific work items in this area included forging a more detailed understanding of the benefits of liberalization and barriers



to opening market access, both in terms of passenger and cargo services. The Assembly also called for the continuation of ICAO's work to develop a Convention on Foreign Investment in Airlines.

- **ICAO Aviation Data, Monitoring and Analysis:** The Assembly endorsed new objectives for ICAO in the areas of statistics, big data analytics, forecasting and economic analysis, and the development of an aviation satellite account methodological framework.
- **Air transport consumer protection:** The Assembly encouraged States to apply the ICAO Core Principles on consumer protection in their regulatory practices, and urged them to sign and ratify the Montreal Convention of 1999. It was also agreed that ICAO should facilitate an exchange of views and good practices regarding the application of the ICAO Core Principles.
- **Africa and Competitiveness:** The Assembly also agreed that ICAO should provide technical expertise and support for the implementation of the

Ministerial Declaration and Framework for a Plan of Action for Air Transport and Tourism Development in Africa, and furthermore that it should establish a new Global Aviation Competitiveness Index.

- **CO2 Standards:** States also acknowledged the excellent progress recently achieved through ICAO on the first aircraft CO2 emissions standard, and the non-volatile Particulate Matter standard for aircraft engines. They also called for ICAO's Committee on Aviation Environmental Protection (CAEP) to prioritize an exploratory study on environmental impacts of new supersonic aircraft being developed.

MCGILL CONFERENCE ON INTERNATIONAL AVIATION LAW

In October 2019, The WB Air Transport Team participated in the 12th annual McGill conference on International Aviation Liability, Insurance and Finance, which took place in Montreal, Canada. The objective was to discuss some legal aspects and developments in the air transport sector, which are also relevant for WBG client countries.

Recent Developments in Aviation Law

Limitation of liability: A panel discussed made a comparative analysis of recent Warsaw and Montreal Convention jurisprudence. While the Warsaw Convention has a low liability for personal injury on an international flight (maximum 250,000 Francs or 16,600 special drawing rights (SDR)), most countries have adhered to the Warsaw Convention where a carrier is liable for SDR 100,000 (indexed, currently SDR 113,000 or about USD \$155,000). The challenge for a carrier is to defend against a claim that gross negligence was involved, which would open for unlimited liability. This was ongoing in the Boeing 737 Max accident of Ethiopian, where some parties claim that Ethiopians liability was beyond the limits of the Montreal Convention, because the pilots weren't trained properly to deal with the emergency of the B737 Max.

Aviation disaster litigation: The discussion about recent aviation disaster litigation, including the Lion Air and Ethiopian Airlines Boeing 737 MAX crashes and groundings, highlighted two interesting topics: First, litigation has clearly become a global industry where, for example, US lawyers travelled to Ethiopia looking for clients to be represented in a claim in the US. This means that even local victims may sue in the US where the award for damages is much higher (so called "Forum Shopping"). Second, given the liabilities on international air services for airlines, the

two Boeing related crashes may focus primarily on the manufacturer of the aircraft for which there is no limitation in terms of liability.

Compensation in the case of death: In the case of death, in most jurisdictions, families are entitled to compensation for the loss of economic dependency, however, every jurisdiction calculates this in a different way. In addition, in many jurisdictions family members are entitled to compensation for the emotional trauma they have suffered, but the value of this varies wildly. The figures below are average figures for a 45-year-old wage earner leaving behind a partner and one teenage child: (i) UK \$1,750,000 - \$2,400,000; (ii) France \$1,900,000 - \$2,600,000; (iii) Australia \$1,400,000; (iv) EU \$450,000; (v) Asia \$250,000 - \$650,000; (vi) Brazil \$2,500,000; (vii) USA \$4,500,000.

Non-Economic Damages - Survivor: Plane crash survivors most commonly suffer burn injuries. In addition to economic losses, victims are compensated for the pain and suffering which they have experienced. These are also called general damages, moral damages, non-economic damages, non-pecuniary damages. The figures below are average general damages figures for a 35-year woman suffering serious disfiguring burns to her face: (i) UK \$150,000 – \$200,000; (ii) France \$300,000 – \$400,000; (iii) South Africa \$20,000 – \$40,000; (iv) Malaysia \$5,000 – \$7,500; (v) USA \$25,000,000 - \$50,000,000.

Penal Law in Aviation: A concerning trend is the criminalization of accidents and incidents, where operators (crew, air traffic controllers etc.) may get arrested quickly and charged with criminal negligence before that cause and responsibilities were properly investigated. This trend is can create a significant impact on civil liability (the argument that “a criminal act was committed” creates civil liability even if unproven or acquitted) and will most likely raise insurance premiums.

Relevance of WBG Client Countries: Aviation law and its application in case of major accidents has truly become a global matter where local differences start to fade away. If passengers in a low income country, where compensation for damages are modest (see example Malaysia \$7,500 to USA \$50 million), are motivated by some creative lawyers to sue abroad, then not only the risk for liability, and the related insurance cost, increase for their carriers, the trend of blaming the operator (“pilots weren’t trained properly”) for gross negligence also increases. The consequence may be a sharp increase of cost for operators that typically experience a high cost environment (taxes, fees, etc.). Operators in WBG client countries must therefore comply with all international best practices and maintain high safety standards.

Liability of Airports, Air Navigation Service Providers (ANSP), and Maintenance Providers

Liability of airports for passenger injury: Airports do not profit from any international treaty, which would limit their liability in case of an accident. Nevertheless, the liability is typically based on local law, where the question arises if the damage provoked by the airport can be based on a contractual relationship between the traveler and the airport (by paying a user fee) or if the claim would be based on a liability given an illegal act (negligence etc.). The latter would be harder to prove for the claimant, but many advanced countries recognize a contractual relationship in the case of airport liability towards a traveler.

Challenges faced by airports: Given the strong growth worldwide in air travel, airports and airport services providers are facing several new challenges. These include increased air traffic, ongoing construction, redevelopment and modernization of facilities, modernization of Air Traffic Control (ATC) installation, cybersecurity threats, airport security requirements, increased passenger screening, evolving environmental concerns, new regulatory issues, real estate issues, and financing challenges. In other words, airports are becoming very complex enterprises with a variety of risk to deal with. This is also increasingly an issue in WBG client countries, which often comply to a lesser extent with international standards and best practices.

Liability of maintenance providers: Many services at airports and ANSP are provided by third parties. However, the mandating entity, in most jurisdictions, remains responsible for any damage or non-compliance such service provider creates. It is therefore important that the service providers are well instructed, supervised, and corrected to push liability to their side in case of damages.

Relevance of WBG Client Countries: Other than with airlines, liability of airports, ANSP, and maintenance providers is often a matter of local law. However, this liability is typically not capped to any maximum amount, and given the complexity of some airports in WBG client countries, and represent a significant risk. It is therefore important that these entities comply with international best practices, including doing regular risk assessments.

Air Transport Regulation – Consumer Protection

Consumer protection laws in aviation: A significant number of States, in recent years, have adopted regulatory measures concerning for instance access to air travel for passengers with reduced mobility, price transparency and obligation of the carrier toward passengers in case of flight disruption (flight cancellation,

flight delay or denied boarding due to overbooking). The basis of this development seems the Convention for the Unification of Certain Rules for International Carriage by Air (Montreal Convention) adopted by a diplomatic meeting of ICAO member states on 28 May 1999 which contains some provisions granting rights to the passengers. Subsequently, ICAO developed guidance material in such areas as conditions of carriage, fare guarantee, baggage, tariff disclosure, denied boarding and code sharing. This guidance can, among others, be found in the Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587).

EU Regulation 261: The Flight Compensation Regulation (EU Regulation 261) is a regulation in EU law establishing common rules on compensation and assistance to passengers in the event of denied boarding, flight cancellations, or long delays of flights. It sets a compensation between €250 to €600 depending on the flight distance for delays over of at least two hours, cancellations, or being denied boarding from overbooking. Furthermore, airlines must provide refreshments and accommodation where appropriate. The Court of Justice of the European Union has interpreted passenger rights strictly, so that there are virtually no exceptions for airlines to evade their obligations for breach of contract. One of the interesting question was if the EU Regulation 261 could be applied in other jurisdictions including class actions, when for example, an EU foreign carrier

leaves from the EU with delay. The general understanding was that this was certainly possible in certain jurisdictions, but it hasn't yet developed.

New Canadian consumer protection regulation for air travel: A outspoken discussion about the new Canadian regulations for consumer protection revealed certain perceived flaws, which triggered an IATA-led lawsuit. It is unclear if this Canadian regulation will be enacted as proposed.

Criticism about new consumer protection regulation for air travel: CES was assigned the role to provide a critical view about a perceived proliferation of aviation consumer protection legislation. He reminded that only a very few industries have consumer protection laws where the consumer is protected from just inconvenience and not from physical harm or a major material loss ("are there any consumer protection laws for delayed trains?"). It seems, that consumer protection laws primarily benefit lawmakers, who gain political clout when enacting such laws, and lawyers, the latter already having established "claim farms" in some countries, where they systematically chase delayed passengers to collectively claim their compensation against a share of the payment. The cost for these compensation schemes eventually is borne by the customer in an industry, which has very low margins ("most airlines lose money"). The question here is if compensation for non-performance should only be based on a contractual level, which



already exists in some cases, where some airlines offer compensation for delays on a voluntary basis. Nevertheless, the participants of the conference, which were over 90% in the legal profession, seemed to welcome new consumer protection legislation, maybe primarily as a business opportunity.

Relevance of WBG Client Countries: CES elaborated on the fact that a surprising large number of WBG client countries have in fact enacted very sophisticated consumer protection regulations, often just copying, and enacting the elements of the EU Regulation 261. The challenge is that over 60 countries have their own consumer protection regulations, and often these regulations aren't coordinated with each other. This can result that on one itinerary as many as three different passenger rights regimes may be in effect. Another particularity is the fact, that many emerging countries do not apply these laws or the traveler has no idea that they exist. For example, the eight countries of the West African Economic and Monetary Union have strict aviation consumer laws on paper, which are not applied. Other examples of consumer laws for aviation, or at least legislator steps towards such legislation, include Azerbaijan, Brazil, Cameroon, Cabo Verde, Colombia, Ethiopia, Georgia, India, Jamaica, Kenya, Kiribati, Malawi, Mexico, Morocco, Nigeria, Philippines, Poland, Rwanda, Samoa, Seychelles, Sri Lanka, Tonga, Tunisia, Vietnam, and Zambia, which all have enacted some sort of aviation consumer regulations. In many of these countries, bad legal coordination between laws of the applicable region, or simply non-applicability of enacted legislation, often renders these regulations powerless. Instead of just “cut and

paste” consumer protection legislation, WBG client countries should develop and enact only such legislation which is suitable for their countries and which will be applied.

Liability issues and Regulation of Unmanned Aerial Vehicles (UAV) or Drones

Drone safety at airports and heliports: Safety of aircraft operations at airports or heliports with increased drone operations remains a key challenge, which is addressed in many regulatory frameworks addressing UAV. It is, however, important to distinguish between classes of UAV (e.g. weight from 250 grams to 25 kg) and their usage (recreational or professional).

Challenges of regulation: While the US, Canada, and the EU are adapting and evolving their regulation of UAV, many countries around the globe have already enacted some sort of regulation. This regulation is often not well coordinated between countries, and some are far too strict, while others don't go deep enough.

Privacy compliance and management following UAV data collection: In many countries, privacy issues about data and images collected by drones become an issue, especially when they privacy protection laws exist in the general legislation. This includes some WBG client countries, which have restricted the use of UAV due to privacy (sometimes national security issues).





UAVs and cybersecurity: The risk of cybersecurity breaches, especially for larger UAVs is a legitimate concern, which puts a higher burden on operators, including an increased liability.

Insurance coverage and contract issues and engaging third-party UAV providers: Especially commercial operators, which typically operate heavier UAS, should be insured by a reputable underwriter. Nevertheless, the risk for serious damages is comparatively low, and insurance premium are typically not a major issue. When engaging third-party UAV providers, the contracting counterpart needs to assure that the operator has adequate insurance coverage to avoid liability by being considered the operator in case of an accident.

Relevance of WBG Client Countries: UAV or drones are increasingly becoming an essential tool in many applications in emerging countries around the world. However, the risk the operating of UAV can pose requires adequate regulation, which on the one hand must assure operational safety and on the other hand does foster the application of UAS and innovation in the field of this new technology. Given that regulation is still developed by major countries or organizations, emerging countries should avoid rushing to fixed and prohibitive regulation, but work in cooperation with international partners towards a suitable regulatory environment for UAV.

MALTA ANNUAL AVIATION CONFERENCE & EXPO (MACE)

In November 2019, The Bank Air Transport Team participated in MACE conference.

MACE included several local and European aviation personalities from various sectors (regulatory, Air Traffic Control, airlines, business aviation, and others). The presentations and discussions covered an array of aviation related topics: safety aspects of ATC operations, new medical regulations – Psychiatric, Psychological and Drug testing, drones in Malta – Present and Future, extracting ancillary revenues and Public Relations value from airliner fleets, aviation Industry overview and outlook, building a competitive aviation hub in a changing global industry, the future of urban air transport, business aviation’s competitive advantage for businesses, reshaping the aviation industry using artificial intelligence, and software vs. data – “The cost, the price, the value of aviation data.”

The WB presentation focused on the global economy, the current stage of the airline industry, the risk the aviation sector is facing, and gave a special focus Africa and its air transport sector (see attached). The conclusion of this presentation and the following discussion as that the global economy is slowing and a recession becomes more likely, the impact on the aviation industry is unclear. The airline industry, continued with strong growth in passengers, but yields were under pressure. Overall, global risks are increasing, but many risks are not really addressed (financial stability, oil production and its sustainability, and looming trade wars). Africa, as a continent and aviation market, has a great potential for growth, but governments need to facilitate, not to only profit from the sector.

COMMUNITY SERVICE

Several World Bank staff members are licensed and active pilots, certified by the US FAA and/or European Aviation Authorities EASA. To remain current on their pilot qualifications, they regularly fly and undergo required refresher training. The most rewarding way of keeping current is to engage in community service by providing free air transportation to people of all ages whose medical needs – evaluation, diagnosis, and treatment – can only be met by health care facilities far from their homes.

In the US, the not-for-profit organization Angel Flight provides timely travel to patients who cannot withstand traveling long distances by automobile, rail, or bus, or who do not have the financial means to use suitable alternative transportation. Oftentimes, transport in smaller, private aircraft can better accommodate patients whose conditions could worsen if exposed to the re-circulated air on commercial flights, or who need efficient point-to-point transport.

However, due to restrictions triggered by the COVID-19 pandemic, Angel Flight had to suspend transportation of patients during most of FY20. Nevertheless, Angel Flight actively supported the distribution of personal protective equipment

(PPE) to smaller and remote hospitals in the US to which shipment would have been rather costly.

One example of such an Angel Flight mission, which was carried out by Charles E. Schlumberger, Lead Air Transport Specialist and Bertram Boie, Senior Economist, was a flight to transport PPE from Wings Field, PA, to Williams County Airport for the Community Hospital and Medical Center of the small town of Bryan in Ohio.

The WBG's contribution, in accordance to Staff Manual 9.10, consisted of one day of administrative leave to carry out this rewarding community service.



Contact person is Charles E. Schlumberger at cschlumberger@worldbank.org

For more information visit: www.angelflighteast.org



Despite an unprecedented collapse in air travel since World War II, experts around the world initially were rather optimistic when it came to forecasting recovery. Based on the experience of the swift recovery of air services after the events of 9/11, full restoration of air services was seen possible by the end of 2021. Especially domestic air traffic may recover quickly in some markets, such as the US or China. Indeed, some domestic markets showed early signs of recovery, but this was stalled by second and later third wave of the COVID-19 pandemic. International traffic made some recovery, especially in Europe and Asia-Pacific, but newly introduced health measures made cross border air travel increasingly difficult. By the later part of 2020, many forecasts moved the target date for recovering to 2019 air traffic as late as 2025.

The situation in developing and emerging countries was marked by an initial sharp drop of about 90% traffic (Africa, Latin America). Nevertheless, by the end of 2020 most markets have recovered partially, remaining at about 50% of traffic compared to 2019. However, it has become increasingly difficult to make a confident forecast on future development of air traffic. First, the pandemic was not yet under control in 2020, and the vaccination roll-out started only in 2021. Second, many countries imposed various travel restrictions, including quarantine requirements or ban for travelers of certain countries. Finally, many destinations lacked connectivity, as airlines cancelled many routes and mothballed sometimes large parts of their fleet.

When considering the future of air transportation, nations around the world need to address its development in three stages: (i) the short-term survival of the industry, (ii) the medium-term restoration of air services, and (iii) the long-term development of a sustainable air transport sector.

The sector that was affected the most on the short-term was the airline industry. Many carriers had to ground parts of their fleet, and rapidly faced serious cashflow problem. Many governments, especially in developed countries granted financial support, but in most developing countries, public funding is very spares as there air many competing sector requiring support. When considering support for airlines, two main questions need to be answered positively: (i) would the demise of a carrier negatively impact connectivity or are there other operators to take over the markets, and (ii) was the carrier profitable before the impact of the pandemic. If the answer of one or both questions is negative, support

may not be justified. For the medium-term restoration of air services, the principles of safety and security, financial sustainability, and a competitive environment allowing the participation of the private sector, must be implemented. Finally, the reset triggered by the COVID-19 pandemic provides an opportunity for the long-term development of a sustainable air transport sector.

The greatest challenge to sustainability of air transport is climate change. While the sector is only responsible for about 2.4% of the global CO₂ emissions from fossil fuel use, the sector is often perceived that is the least involved in mitigating its climate and environmental impacts. Despite the small share of global CO₂ emissions, the growth of the sector's CO₂ emissions was strong, about 32% between 2013 and 2018. While the drop in air traffic caused by COVID-19 resulted in reduced emissions and environmental impacts, it also may jeopardize the aviation-related climate and environmental programs and agreements. For example, the carbon price governing the European Union Emission Trading Scheme, which includes aviation has dropped severely, affecting the effectiveness of the program. Equally affected is the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) scheme where the 2019 – 2020 CO₂ emission level should be used as the baseline to calculate future CO₂ emission reduction targets. Finally, the burden for developing countries to address and implement the global mitigation programs of aviation must be addressed as an opportunity to “build back better” when raising from the ashes of COVID-19.

Given these challenges, but also the opportunities of the air transport sector in developing and emerging countries, the WBG will continue to support its client countries in the development of sustainable, safe, and affordable air transport services. It will address the short-term challenges, by shaping policy measures as well as means of supporting the aviation sector at large. On the medium and long run, the WBG will continue its development support, which includes institutional reforms, capacity building, sector reforms, or infrastructure financing where warranted.

To foster private sector participation financing by IFC and by the provision of guarantees by MIGA will be considered. This will be supported by partnerships with the industry, as well as with bilateral and international partners, which include ICAO, ACI, IATA, as well as with multinational and regional development banks.





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